

Well Name: WINDWARD FEDERAL	Well Location: T24S / R32E / SEC 30 / LOT 1 / 32.193653 / -103.720805	County or Parish/State: LEA / NM
Well Number: 708H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM120908	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002552451	Operator: COG PRODUCTION LLC	

Notice of Intent

Sundry ID: 2786987

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 04/25/2024	Time Sundry Submitted: 12:54
Date proposed operation will begin: 04/25/2024	

Procedure Description: COG Production requests a change to our approved APD for this well to reflect a change in dedicated acres and surface casing. Additionally, we request the addition of a contingency 4-string casing design be added to the drill plan in the event water flows are encountered during drilling. Change dedicated acres to 1331.72. Change surface casing FROM: 14.75 inch hole, 10.75 inch, 45.5#, J55, BTC Change surface casing TO: 17.50 inch hole, 13.375 inch, 54.5#, J55, BTC, 0 – 930 ft. Also, COG Production requests a variance to allow for break testing as attached. Detailed contingency casing plan and procedure attached.

NOI Attachments

Procedure Description

- 4_string_contingency_casing_specs_20240430131333.pdf
- COP_BOP_Break_Testing_Documentation_6_07_23_20240430131312.pdf
- WINDWARD_FED_COM_708H_PWP1_WP_20240425125344.pdf
- WINDWARD_FED_708H_C102_NAD83_signed_4_25_24_20240425125337.pdf
- WINDWARD_FED_COM_708H_PWP1_PLAN_RPT_20240425125337.pdf
- Windward_Fed_Com_708H_BHL_and_Casing_Sundry_20240425125337.pdf
- WINDWARD_FED_COM_708H_PWP1_AC_RPT_20240425125337.pdf
- 3_string_casing_specs_20240425125337.pdf

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Conditions of Approval

Additional

WINDWARD_FED_COM_708H___SUNDRY_COA_20240501101951.pdf

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: STAN WAGNER	Signed on: APR 30, 2024 01:13 PM
Name: COG PRODUCTION LLC	
Title: Regulatory Advisor	
Street Address: 600 WEST ILLINOIS AVE	
City: MIDLAND	State: TX
Phone: (432) 253-9685	
Email address: STAN.S.WAGNER@CONOCOPHILLIPS.COM	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: KEITH P IMMATTY	BLM POC Title: ENGINEER
BLM POC Phone: 5759884722	BLM POC Email Address: KIMMATTY@BLM.GOV
Disposition: Approved	Disposition Date: 05/01/2024
Signature: KEITH IMMATTY	

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No.	
9. API Well No.	
10. Field and Pool or Exploratory Area	11. Country or Parish, State

SUBMIT IN TRIPLICATE - Other instructions on page 2	
1. Type of Well ☐ Oil Well ☐ Gas Well ☐ Other	
2. Name of Operator	
3a. Address	3b. Phone No. (include area code)
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)	

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)	Title
Signature	Date

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: LOT 1 / 710 FNL / 670 FWL / TWSP: 24S / RANGE: 32E / SECTION: 30 / LAT: 32.193653 / LONG: -103.720805 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 1 / 100 FNL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 30 / LAT: 32.195328 / LONG: -103.721905 (TVD: 11895 feet, MD: 11928 feet)

BHL: LOT 4 / 50 FSL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 31 / LAT: 32.166718 / LONG: -103.72189 (TVD: 12100 feet, MD: 22051 feet)

CONFIDENTIAL

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG PRODUCTION LLC
WELL NAME & NO.:	WINDWARD FED COM 708H
SURFACE HOLE FOOTAGE:	710'/N & 670'/W
BOTTOM HOLE FOOTAGE:	50'/S & 330'/W
LOCATION:	Section 30, T.24 S., R.32 E.
COUNTY:	Lea County, New Mexico

COA

H2S	☒ Yes	☐ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☐ Low	☒ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Wellhead Variance	☐ Diverter		
Other	☐ 4 String	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☐ Contingency Cement Squeeze	☐ EchoMeter	☐ Primary Cement Squeeze
Special Requirements	☐ Water Disposal	☒ COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	☒ Break Testing	☐ Offline Cementing	☒ Casing Clearance

Drill plan change addressed in this COA. All previous COAs still apply

A. CASING

Primary Casing Design:

1. The 10-3/4 inch surface casing shall be set at approximately 930 feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The 7-5/8 inch intermediate casing shall be set at approximately **11,550** feet. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Option 2:

Operator has proposed a DV tool ~50' above the Lamar Lime top. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
3. The 5-1/2 inch production casing shall be set at approximately **22,286** feet. The minimum required fill of cement behind the 5-1/2 inch production casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Alternate Casing Design(Contingency):

1. The 13-3/8 inch surface casing shall be set at approximately **930** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature

survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The **9-5/8** inch intermediate casing shall be set at approximately **4,530** feet. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. The **7-5/8** inch intermediate liner shall be set at approximately **11,550** feet tying back in a minimum of 200' into the **9-5/8"** casing. The minimum required fill of cement behind the **7-5/8** inch intermediate liner top is:

Option 1 (Single Stage):

- Cement to liner top. Verify excess circulated to surface.
4. The **5-1/2** inch production casing shall be set at approximately **22,286** feet. The minimum required fill of cement behind the **5-1/2** inch production casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Casing Clearance:

THE 5.5" W441 CASING NEEDS TO TIE BACK A MINIMUM OF 200' INTO THE 7.625" W513 TO MEET BLM CLEARANCE REQUIREMENT

Break Testing:

Approved for the intermediate interval. Procedure attached in sundry.

**(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system)
BOPE Break Testing Variance**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (**Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP**)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-689-5981 Lea County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are adequate “coffee ground or less” before cementing.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
 - b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
 - c. BOPE tests (minimum of 4 hours)
 - If well located in Eddy County
EMAIL or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
BLM_NM_CFO_DrillingNotifications@BLM.GOV
(575) 361-2822
 - If well located in Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981
1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

- a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
 3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive

strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in **43 CFR part 3170 Subpart 3172** must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever

is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

KPI 4/29/2024



API BTC

Coupling	Pipe Body
Grade: J55 (Casing)	Grade: J55 (Casing)
Body: Bright Green	1st Band: Bright Green
1st Band: White	2nd Band: -
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -

Outside Diameter	13.375 in.	Wall Thickness	0.380 in.	Grade	J55 (Casing)
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	Regular				

Pipe Body Data

Geometry			Performance		
Nominal OD	13.375 in.	Drift	12.459 in.	SMYS	55,000 psi
Wall Thickness	0.380 in.	Plain End Weight	52.79 lb/ft	Min UTS	75,000 psi
Nominal Weight	54.500 lb/ft	OD Tolerance	API	Body Yield Strength	853 x1000 lb
Nominal ID	12.615 in.			Min. Internal Yield Pressure	2730 psi
				Collapse Pressure	1130 psi
				Max. Allowed Bending	19 °/100 ft

Connection Data

Geometry		Performance	
Thread per In	5	Joint Strength	909 x1000 lb
Connection OD	14.375 in.	Coupling Face Load	766 x1000 lb
Hand Tight Stand Off	1 in.	Internal Pressure Capacity	2730 psi

Notes

For products according to API Standards 5CT & 5B; Performance calculated considering API Technical Report 5C3 (Sections 9 & 10) equations.
For geometrical and steel grades combinations not considered in the API Standards 5CT and/or 5B; Performance calculations indirectly derived from API Technical Report 5C3 (Sections 9 & 10) equations.
Couplings OD are shown according to current API 5CT 10th Edition.
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API BTC

Coupling	Pipe Body
Grade: L80-IC	Grade: L80-IC
Body: Red	1st Band: Red
1st Band: Brown	2nd Band: Brown
2nd Band: -	3rd Band: Pale Green
3rd Band: -	4th Band: -

Outside Diameter	9.625 in.	Wall Thickness	0.395 in.	Grade	L80-IC
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	Regular				

Pipe Body Data

Geometry				Performance	
Nominal OD	9.625 in.	Drift	8.679 in.	SMYS	80,000 psi
Wall Thickness	0.395 in.	Plain End Weight	38.97 lb/ft	Min UTS	95,000 psi
Nominal Weight	40 lb/ft	OD Tolerance	API	Body Yield Strength	916 x1000 lb
Nominal ID	8.835 in.			Min. Internal Yield Pressure	5750 psi
				Collapse Pressure	3870 psi
				Max. Allowed Bending	38 °/100 ft

Connection Data

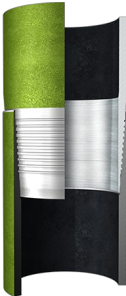
Geometry		Performance	
Thread per In	5	Joint Strength	947 x1000 lb
Connection OD	10.625 in.	Coupling Face Load	837 x1000 lb
Hand Tight Stand Off	1 in.	Internal Pressure Capacity	5750 psi

Notes

For products according to API Standards 5CT & 5B; Performance calculated considering API Technical Report 5C3 (Sections 9 & 10) equations.
For geometrical and steel grades combinations not considered in the API Standards 5CT and/or 5B; Performance calculations indirectly derived from API Technical Report 5C3 (Sections 9 & 10) equations.
Couplings OD are shown according to current API 5CT 10th Edition.
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Wedge 513[®]



Coupling	Pipe Body
Grade: P110-ICY	Grade: P110-ICY
Body: White	1st Band: White
1st Band: Pale Green	2nd Band: Pale Green
2nd Band: -	3rd Band: Pale Green
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	7.625 in.	Wall Thickness	0.375 in.	Grade	P110-ICY
Min. Wall Thickness	90.00 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	7.625 in.	Wall Thickness	0.375 in.	Body Yield Strength	1068 x1000 lb
Nominal Weight	29.70 lb/ft	Plain End Weight	29.06 lb/ft	Min. Internal Yield Pressure	11,070 psi
Drift	6.750 in.	OD Tolerance	API	SMYS	125,000 psi
Nominal ID	6.875 in.			Collapse Pressure	7360 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	7.625 in.	Tension Efficiency	60 %	Minimum	9000 ft-lb
Connection ID	6.800 in.	Joint Yield Strength	641 x1000 lb	Optimum	10,800 ft-lb
Make-up Loss	4.420 in.	Internal Pressure Capacity	11,070 psi	Maximum	15,800 ft-lb
Threads per inch	3.29	Compression Efficiency	75.20 %	Operation Limit Torques	
Connection OD Option	Regular	Compression Strength	803 x1000 lb	Operating Torque	53,000 ft-lb
		Max. Allowable Bending	45 °/100 ft	Yield Torque	79,000 ft-lb
		External Pressure Capacity	7360 psi		

Notes

This connection is fully interchangeable with:
Wedge 523[®] - 7.625 in. - 0.375 in.
Connections with Dopeless[®] Technology are fully compatible with the same connection in its Standard version

For the latest performance data, always visit our website: www.tenaris.com

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TXP® BTC



Coupling	Pipe Body
Grade: P110-CY	Grade: P110-CY
Body: White	1st Band: White
1st Band: Grey	2nd Band: Grey
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.415 in.	Grade	P110-CY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry		Performance	
Nominal OD	5.500 in.	Wall Thickness	0.415 in.
Nominal Weight	23.00 lb/ft	Plain End Weight	22.56 lb/ft
Drift	4.545 in.	OD Tolerance	API
Nominal ID	4.670 in.		
		Body Yield Strength	729 x1000 lb
		Min. Internal Yield Pressure	14,530 psi
		SMYS	110,000 psi
		Collapse Pressure	14,540 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	6.200 in.	Tension Efficiency	100 %	Minimum	12,980 ft-lb
Coupling Length	9.450 in.	Joint Yield Strength	729 x1000 lb	Optimum	14,420 ft-lb
Connection ID	4.658 in.	Internal Pressure Capacity	14,530 psi	Maximum	15,860 ft-lb
Make-up Loss	4.204 in.	Compression Efficiency	100 %		
Threads per inch	5	Compression Strength	729 x1000 lb	Operation Limit Torques	
Connection OD Option	Regular	Max. Allowable Bending	92 °/100 ft	Operating Torque	24,200 ft-lb
		External Pressure Capacity	14,540 psi	Yield Torque	26,900 ft-lb
		Coupling Face Load	302,000 lb		

Notes

This connection is fully interchangeable with:
TXP® BTC - 5.5 in. - 0.275 (15.50) / 0.304 (17.00) / 0.361 (20.00) / 0.476 (26.00) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version
Datasheet is also valid for Special Bevel option when applicable - except for Coupling Face Load, which will be reduced. Please contact a local Tenaris technical sales representative.
Standard coupling design comes with optimized 20° bevel.

For the latest performance data, always visit our website: www.tenaris.com
For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

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TenarisHydril Wedge 441®



Coupling	Pipe Body
Grade: P110-CY	Grade: P110-CY
Body: White	1st Band: White
1st Band: Grey	2nd Band: Grey
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.415 in.	Grade	P110-CY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	Wall Thickness	0.415 in.	Body Yield Strength	729 x1000 lb
Nominal Weight	23 lb/ft	Plain End Weight	22.56 lb/ft	Min. Internal Yield Pressure	14,530 psi
Drift	4.545 in.	OD Tolerance	API	SMYS	110,000 psi
Nominal ID	4.670 in.			Collapse Pressure	14,540 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	5.900 in.	Tension Efficiency	90.80 %	Minimum	15,000 ft-lb
Coupling Length	8.714 in.	Joint Yield Strength	662 x1000 lb	Optimum	16,000 ft-lb
Connection ID	4.670 in.	Internal Pressure Capacity	14,530 psi	Maximum	19,200 ft-lb
Make-up Loss	3.780 in.	Compression Efficiency	90.80 %	Operation Limit Torques	
Threads per inch	3.40	Compression Strength	662 x1000 lb	Operating Torque	33,000 ft-lb
Connection OD Option	Regular	Max. Allowable Bending	82 °/100 ft	Yield Torque	39,000 ft-lb
		External Pressure Capacity	14,540 psi	Buck-On	
		Coupling Face Load	172,000 lb	Minimum	19,200 ft-lb
				Maximum	20,700 ft-lb

Notes

This connection is fully interchangeable with:
Wedge 441® - 5.5 in. - 0.476 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version

For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

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BOPE Break Testing Variance

Initial and 21 Day Testing of 10K BOP's:

Component	High Test Pressure	Low Test Pressure	Duration
Annular Preventer	5,000 psig	250 psig	10 min
Rams	5,000 psig	250 psig	10 min
Manifold	5,000 psig	250 psig	10 min
Wellhead	1,500 psig	-	10 min
Upper / Lower / Kelly Valves	5,000 psig	250 psig	10 min
TIW safety valves / Dart	5,000 psig	250 psig	10 min
Standpipe and mud line to pumps	5,000 psig	250 psig	10 min
Surface Casing (with 8.4 ppg fluid)	1,500 psig	-	30 min

*Equipment satisfies 10M BOPE but break test variance applies to 5M system

COG Production LLC formally requests variance from the minimum standards for well control equipment testing of Onshore Order No. 2 (item III.A.2.a.i) to allow break/shell testing of blowout preventor (BOP) and blowout prevention equipment (BOPE) during batch drilling operations of the intermediate hole section. This variance only applies to 5M BOPE or less formation.

Initial testing of the BOP will be conducted, verifying all components of BOP, BOPE, and choke manifold meet the minimum and maximum anticipated surface pressure (MASP) in accordance with API RP 53 and Onshore Order No. 2, reference table above. Once initial test pressures are achieved, shell testing of the BOP and choke manifold would be conducted within the time limit from initial test to the congruent 21-day test. A complete pressure test of the BOPE components will be completed no later than 21 days following the completion of the initial pressure test or latest complete BOP pressure test date succeeding the initial test, per API RP 53 (6.5.3.4.1 (d)).

BOP and BOPE Testing

- Minimum of Class 3 stack arrangement with one set of blind/blind shear rams and pipe rams shall be installed for a 5K pressure rated system per API RP 53 (6.1.2.9)
 - Classification - COP minimum of Class 3 arrangement apply for all Delaware Basin area wells.
 - Arrangement - Annular preventer, upper pipe rams, blind rams, mud cross, lower pipe rams
- Complete BOP and BOPE test performed at initial installation on well pad.
 - Initial test performed on well with deepest planned intermediate hole section (allowable 200' TVD variance between intermediate hole sections)
 - Annular preventer tested to 100 percent of MASP, or 70 percent of rated working pressure (RWP), whichever is greater.
 - Notify BLM 4 Hrs. prior to testing
- Complete BOP and BOPE test every 21 days in accordance with API RP 53 (6.5.3.4.1 (d)).
- BOP/BOPE shell test (inclusive of manifold shell test) performed during batch drilling operations during rig transition between wells (within the 21-day time limit per API RP 53).
- Function test BOP elements per API RP 53 (6.5.3.1).
 - Required on (1) initial installation of stack, (2) every 7 days, (3) after repair/replacement of any control components
 - Alternate between drillers panel and remote panel

Securing the Wellhead

- Prior to moving rig off check for flow
 - Ensure floats are holding, casing is full of kill mud and backside is static.
- Secure the well with sleeve/plug with BPV
- Disconnect BOP from the wellhead and walk with the rig to another well on the pad.
 - Utilizing BOP wrangler/cradle, maintaining control and upright position of the BOP during movement
- Once BOP is separated from wellhead the Temporary Abandonment (TA) cap will be installed per Wellhead vendor procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.
- Test TA cap to 5,000 psi for 10 min.

COG Production LLC believes that the combination of drilling fluid inside the casing, abandonment plug with BPV, casing and annular valves and the TA cap provide multiple barriers to ensure complete closure of the wellbore prior to skidding/walking the rig.

Break Testing

- Skid rig over the next well on pad and center over wellhead, N/U BOP with the use of the BOP quick connect.
- Shell test the BOP and choke manifold to 5,000 psig and 250 psig. Hold each test for 10 minutes.
 - In accordance with API RP 53 (6.5.3.4.1(b)) BOP shell test will satisfy pressure test of quick connect seals
 - Notify BLM 4 hours prior to testing
- RWP of BOP quick connect is 10K (Certificate of Conformance attached)

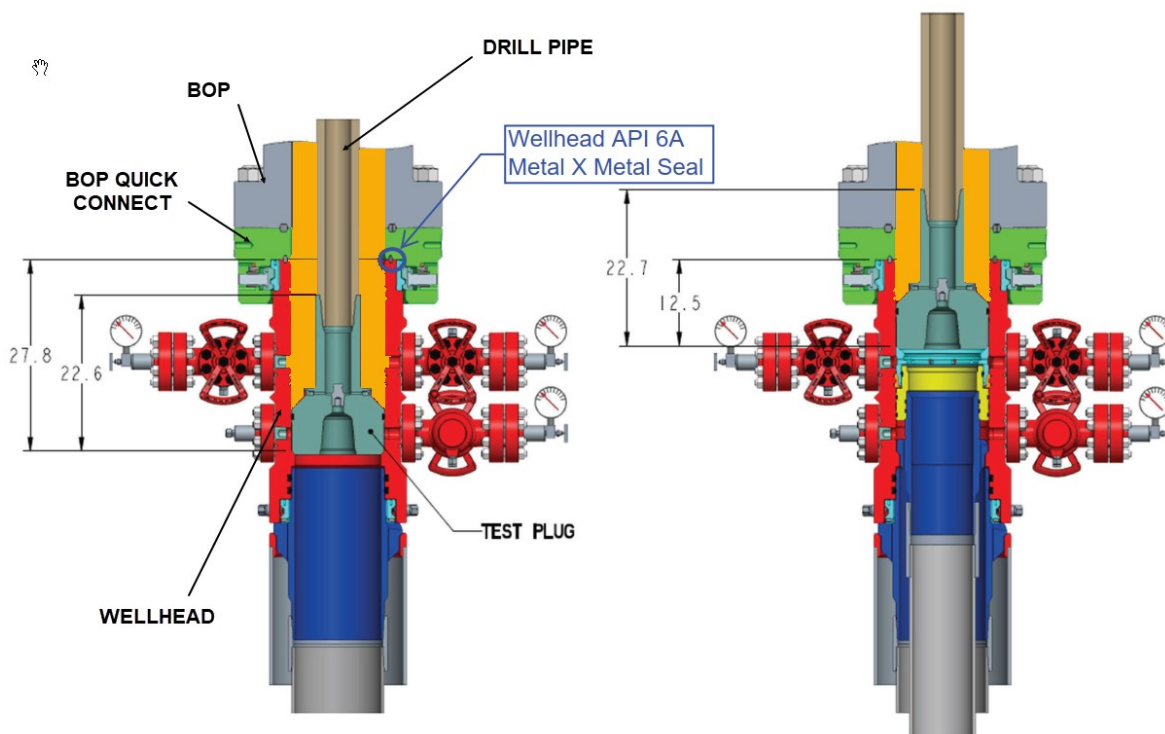


Figure 1: Test plug installed (The orange sections above indicate the areas exposed to the pressure test)

Example Well Control Plan Content

A. Well Control Component Table

This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the BOP nipped up to the wellhead.

Intermediate hole section, 5M requirement

Component	RWP
Pack-off	10M
Casing Wellhead Valves	10M
Annular Wellhead Valves	5M
TA Plug	10M
Float Valves	5M
2" 1502 Lo-Torque Valves	10M

B. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while circulating.

General Procedure

1. Sound alarm (alert crew).
2. Shut down pumps.
3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
4. Confirm shut in.
5. Notify tool pusher/company representative.
6. Read and record the following:
 - a. SICP (Shut in Casing Pressure) and AP (Annular Pressure)
 - b. Pit gain
 - c. Time
 - d. Regroup and identify forward plan to continue circulating out kick via rig choke and mud/gas separator. Circulate and adjust mud density as needed to control well.



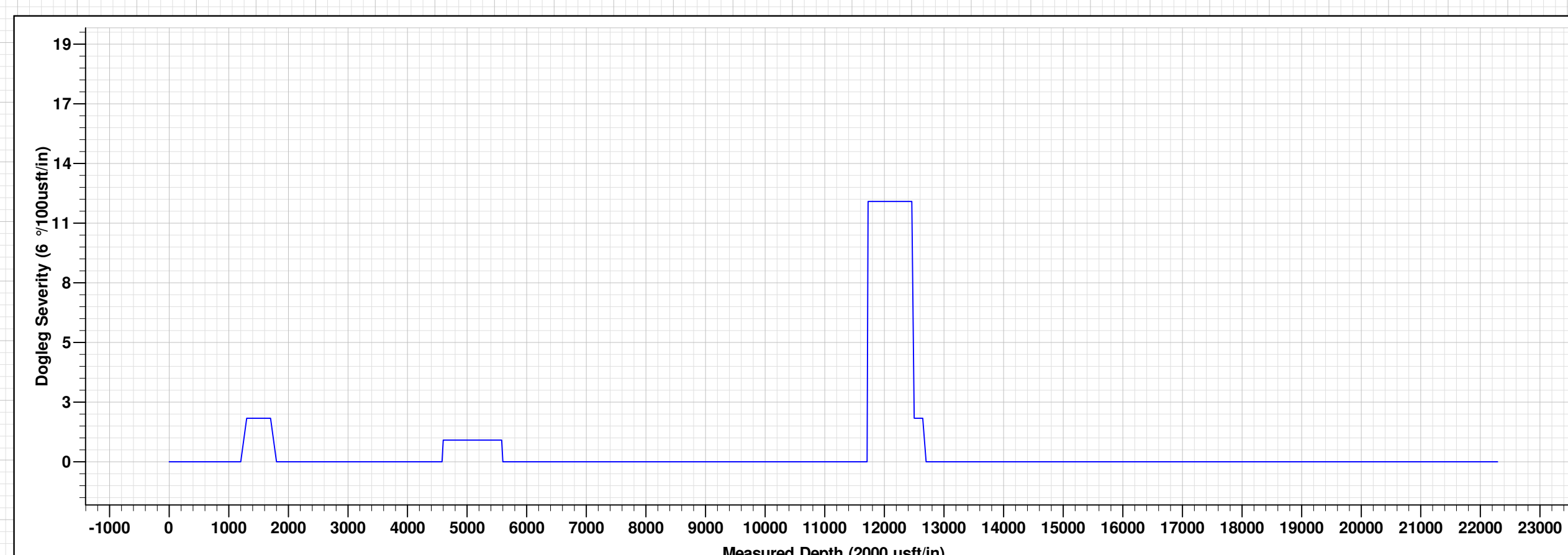
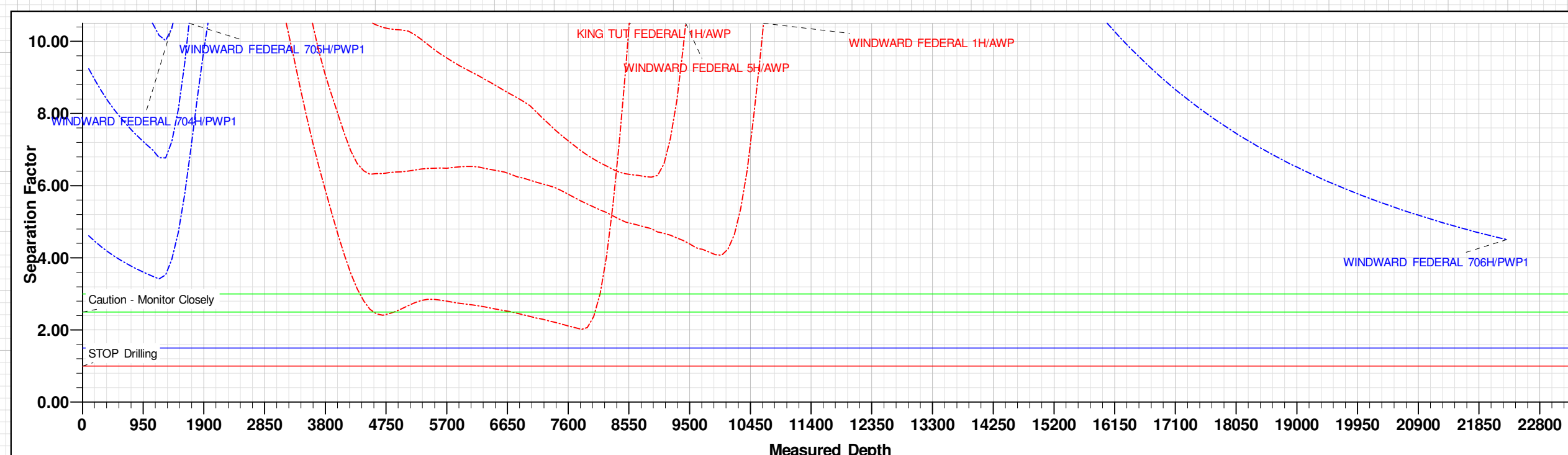
Project: LEA COUNTY SOUTHEAST
Site: WINDWARD FEDERAL PROJECT
Well: WINDWARD FEDERAL 708H
Wellbore: OWB
Design: PWP1
GL: 3541.5
KB=32 @ 3573.5usft

WELL DETAILS: WINDWARD FEDERAL 708H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	434666.30	689630.70	32° 11' 36.704 N	103° 43' 13.170 W

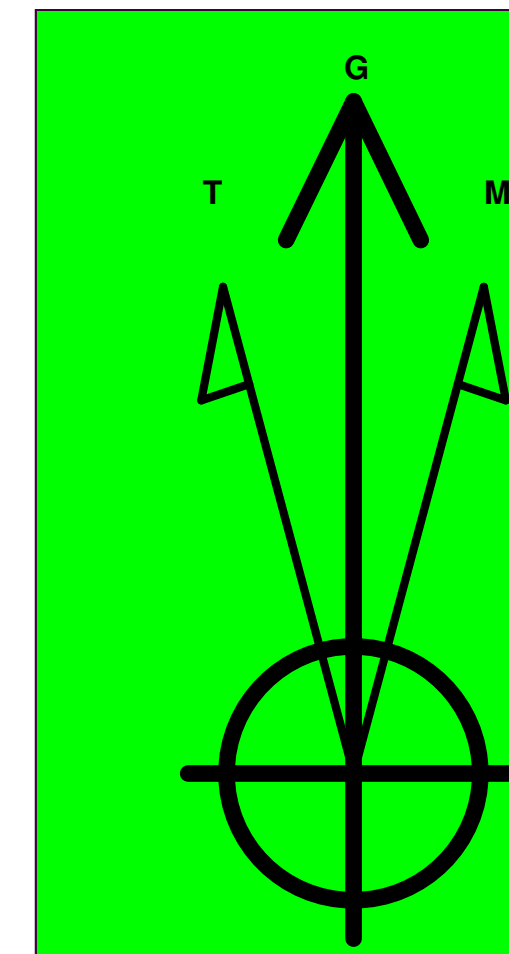
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP(WINDWARD FED #708H)	12135.0	607.6	-343.8	435273.90	689286.90	32° 11' 42.736 N	103° 43' 17.130 W
LTP(WINDWARD FED #708H)	12135.0	-9750.2	-280.6	424916.10	689350.10	32° 10' 0.233 N	103° 43' 17.081 W
PBHL(WINDWARD FED #708H)	12135.0	-9800.2	-280.3	424866.10	689350.40	32° 9' 59.738 N	103° 43' 17.080 W



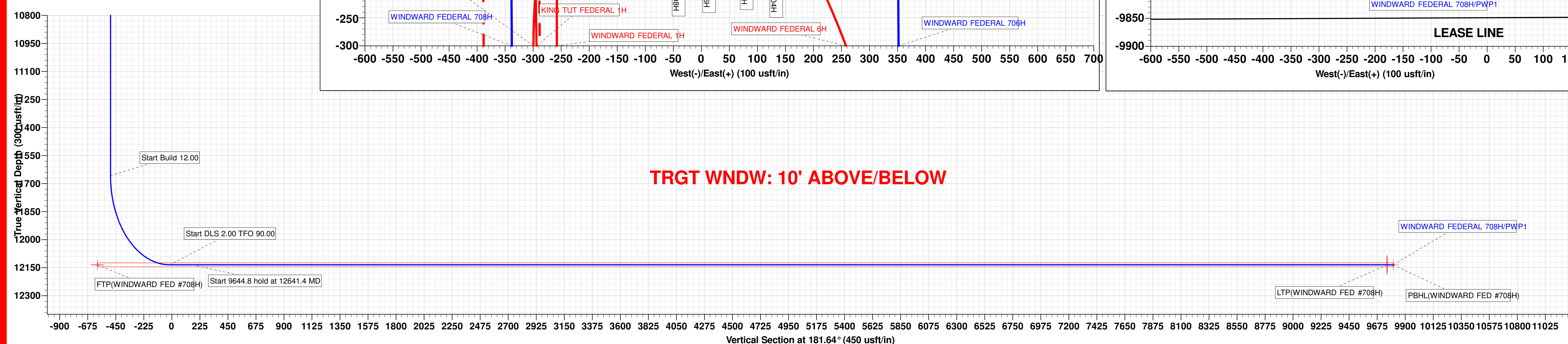
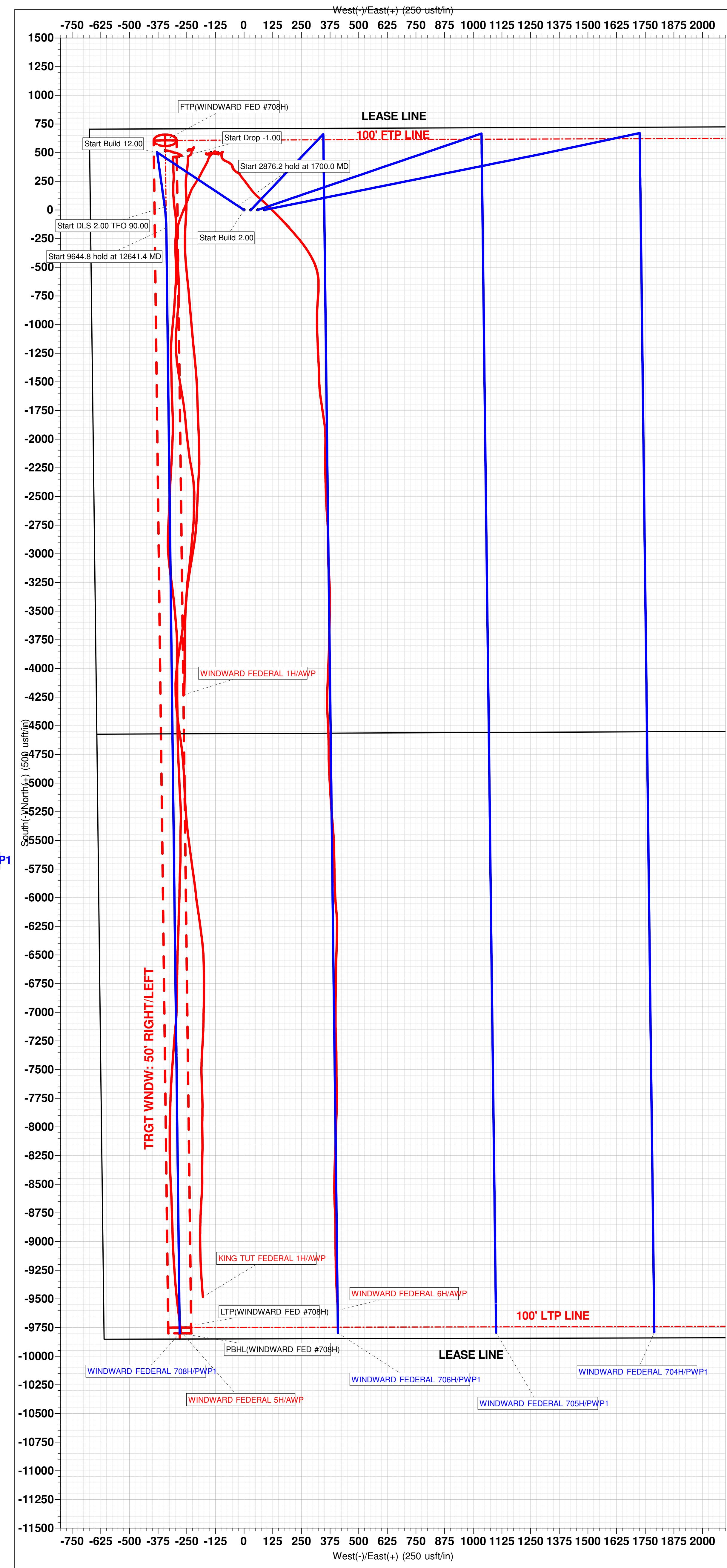
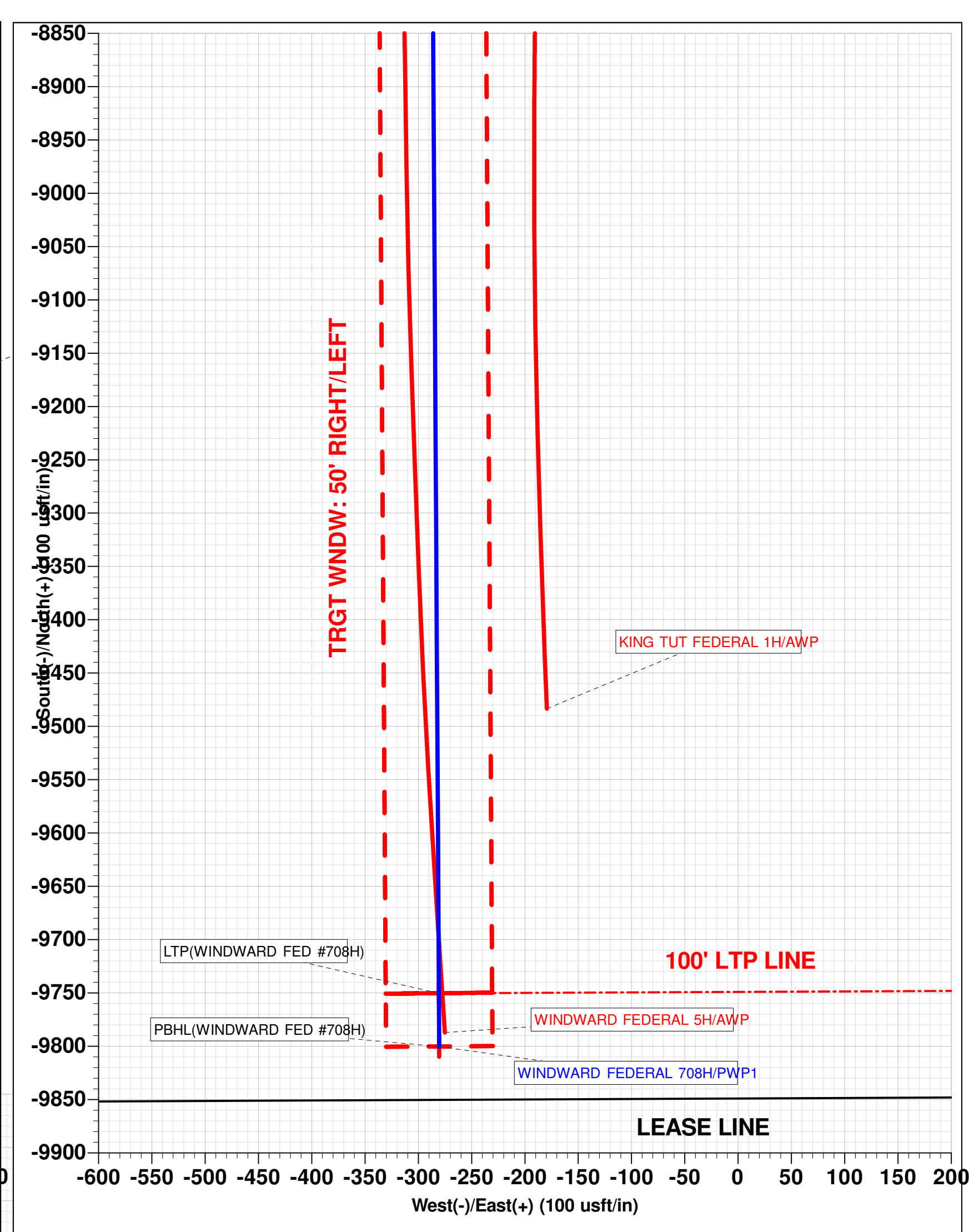
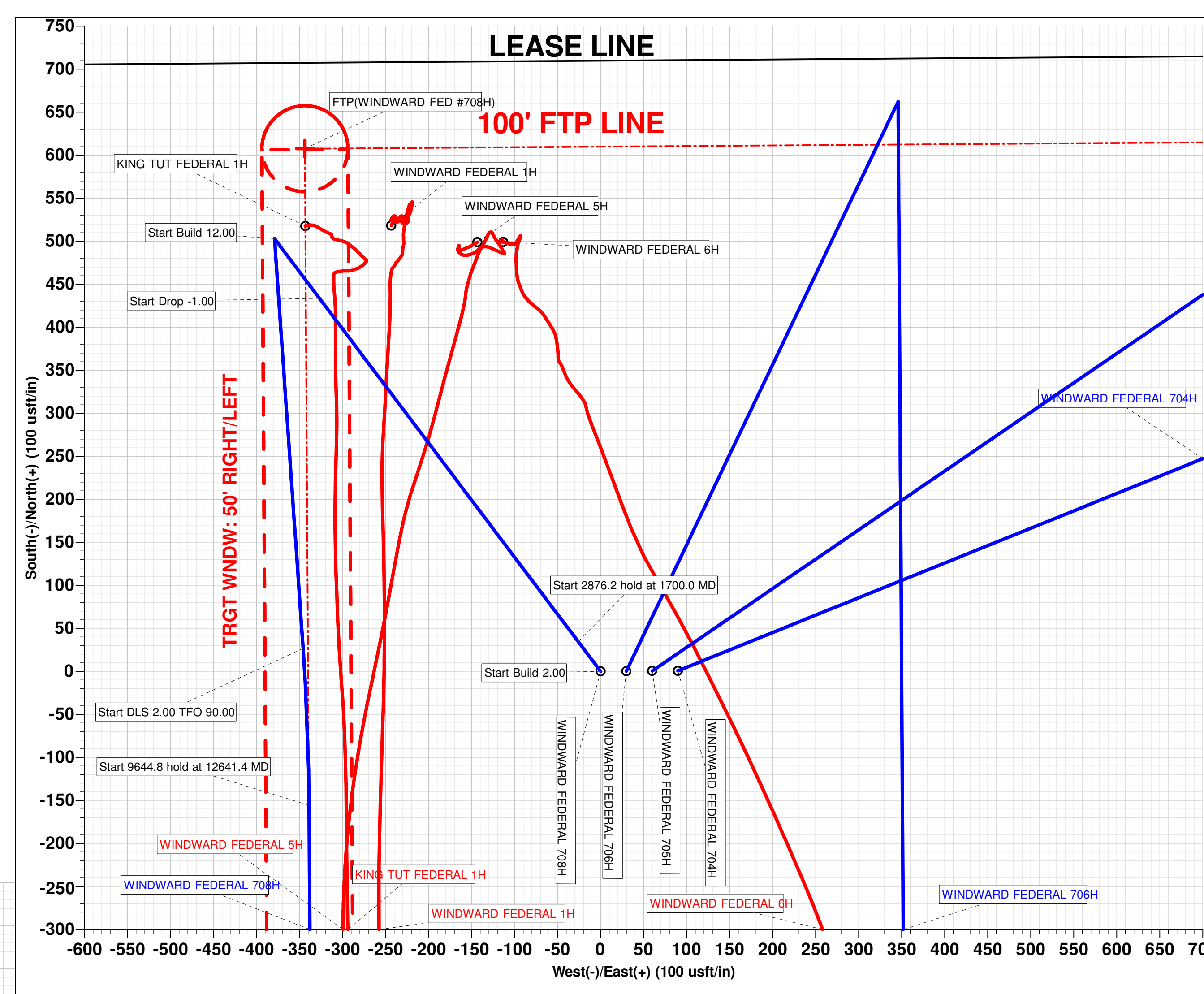
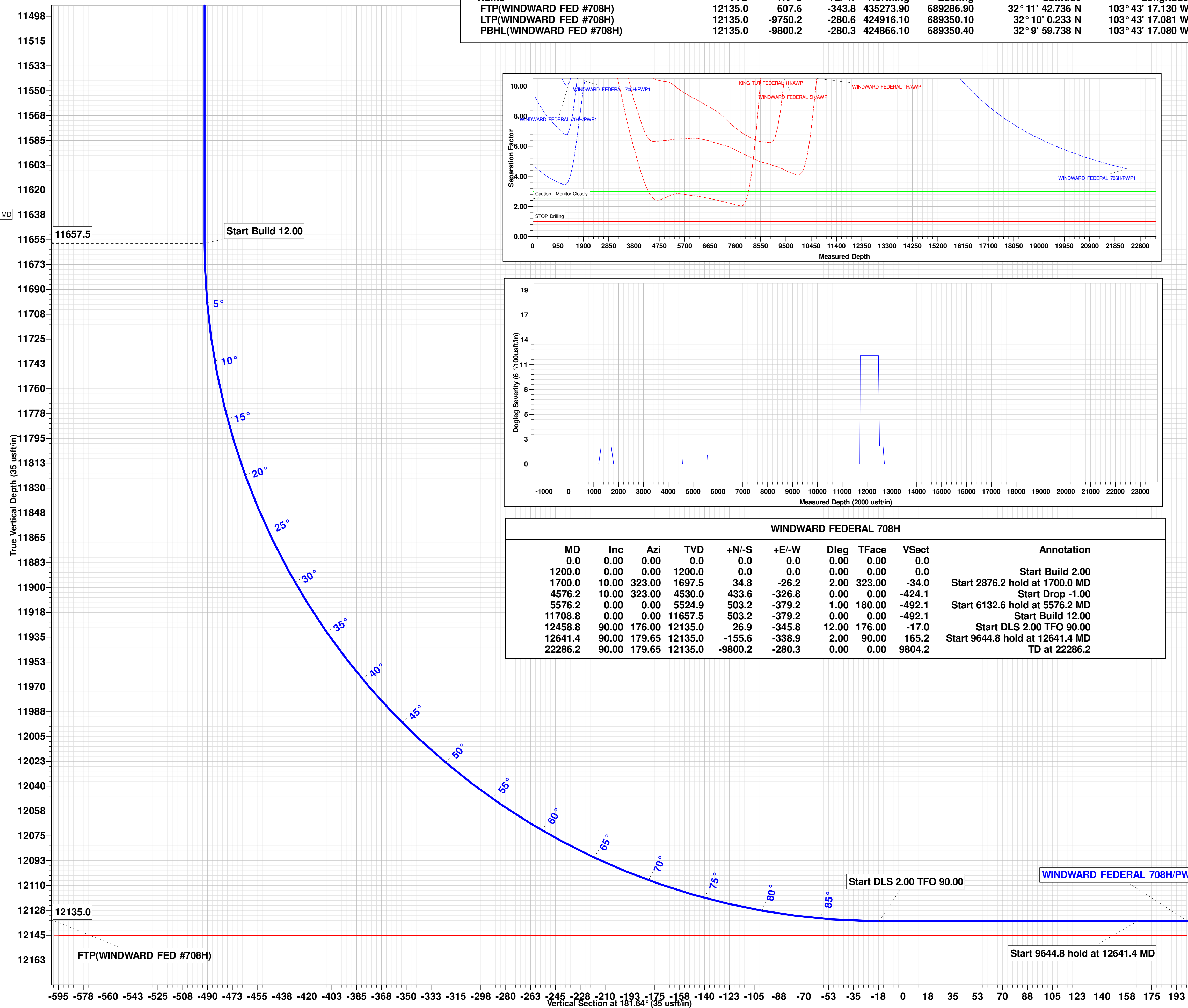
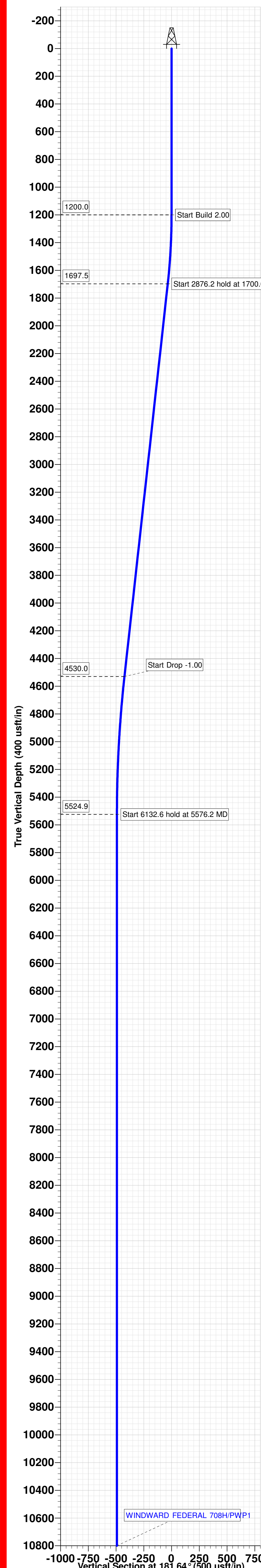
WINDWARD FEDERAL 708H

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
1700.0	10.00	323.00	1697.5	34.8	-26.2	2.00	323.00	-34.0	Start 2876.2 hold at 1700.0 MD
4576.2	10.00	323.00	4530.0	433.6	-326.8	0.00	0.00	-424.1	Start Drop -1.00
5576.2	0.00	0.00	5524.9	503.2	-379.2	1.00	180.00	-492.1	Start 6132.6 hold at 5576.2 MD
11708.8	0.00	0.00	11657.5	503.2	-379.2	0.00	0.00	-492.1	Start Build 12.00
12458.8	90.00	176.00	12135.0	26.9	-345.8	12.00	176.00	-17.0	Start DLS 2.00 TFO 90.00
12641.4	90.00	179.65	12135.0	-155.6	-338.9	2.00	90.00	165.2	Start 9644.8 hold at 12641.4 MD
22286.2	90.00	179.65	12135.0	-9800.2	-280.3	0.00	0.00	9804.2	TD at 22286.2



Azimuths to Grid North
True North: -0.33°
Magnetic North: 6.20°

Magnetic Field
Strength: 47574.0nT
Dip Angle: 59.82°
Date: 5/1/2022
Model: BGGM2022



TRGT WNDW: 10' ABOVE/BELOW

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 746-1283 Fax: (575) 746-9720

DISTRICT III
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-52451	Pool Code 98248	Pool Name WC-025 G-08 S243217P; Upper Wolfcamp
Property Code 40143	Property Name WINDWARD FEDERAL	Well Number 708H
OGRID No. 217955	Operator Name COG PRODUCTION LLC	Elevation 3541.5'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	30	24-S	32-E		710	NORTH	670	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	31	24-S	32-E		50	SOUTH	330	WEST	LEA
Dedicated Acres 1331.72	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

FTP/PPP1 100' FNL & 330' FWL Y=435332.5 N X=730471.5 E LAT.=32.195328° N LONG.=103.721905° W GRID AZ. TO FTP 330°30'00" POINT LEGEND <table border="1"> <tr><td>1</td><td>Y=435430.2 N X=730140.9 E</td></tr> <tr><td>2</td><td>Y=432790.7 N X=730157.0 E</td></tr> <tr><td>3</td><td>Y=430150.9 N X=730172.3 E</td></tr> <tr><td>4</td><td>Y=427509.5 N X=730189.1 E</td></tr> <tr><td>5</td><td>Y=424873.0 N X=730205.8 E</td></tr> <tr><td>6</td><td>Y=424886.2 N X=733060.2 E</td></tr> <tr><td>7</td><td>Y=430176.4 N X=733021.2 E</td></tr> <tr><td>8</td><td>Y=435450.5 N X=732978.6 E</td></tr> </table> LTP 100' FSL & 330' FWL Y=424974.5 N X=730535.1 E LAT.=32.166855° N LONG.=103.721890° W	1	Y=435430.2 N X=730140.9 E	2	Y=432790.7 N X=730157.0 E	3	Y=430150.9 N X=730172.3 E	4	Y=427509.5 N X=730189.1 E	5	Y=424873.0 N X=730205.8 E	6	Y=424886.2 N X=733060.2 E	7	Y=430176.4 N X=733021.2 E	8	Y=435450.5 N X=732978.6 E	NM 120908 NAD 83 NME <u>SURFACE LOCATION</u> Y=434724.9 N X=730815.3 E LAT.=32.193653° N LONG.=103.720805° W NAD 83 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=424924.5 N X=730535.4 E LAT.=32.166718° N LONG.=103.721890° W	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <u>Stan Wagner</u> 4/25/2024 Signature Date Stan Wagner Printed Name E-mail Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. APRIL 27, 2022 Date of Survey Signature & Seal of Professional Surveyor <u>Chad Harcrow</u> 3/24/24 Certificate No. CHAD HARCROW 17777 W.O. # 24-272 DRAWN BY: WN
1	Y=435430.2 N X=730140.9 E																	
2	Y=432790.7 N X=730157.0 E																	
3	Y=430150.9 N X=730172.3 E																	
4	Y=427509.5 N X=730189.1 E																	
5	Y=424873.0 N X=730205.8 E																	
6	Y=424886.2 N X=733060.2 E																	
7	Y=430176.4 N X=733021.2 E																	
8	Y=435450.5 N X=732978.6 E																	

DELAWARE BASIN EAST

LEA COUNTY SOUTHEAST

WINDWARD FEDERAL PROJECT

WINDWARD FEDERAL 708H

300255245100

OWB

Plan: PWP1

Standard Planning Report

24 April, 2024

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB=32 @ 3573.5usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=32 @ 3573.5usft
Site:	WINDWARD FEDERAL PROJECT	North Reference:	Grid
Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Project	LEA COUNTY SOUTHEAST		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	WINDWARD FEDERAL PROJECT		
Site Position:		Northing:	398,637.10 usft
From:	Map	Easting:	741,887.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 5' 36.820 N
		Longitude:	103° 33' 8.116 W

Well	WINDWARD FEDERAL 708H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	3.0 usft	Wellhead Elevation:	
Grid Convergence:	0.33 °		
		Latitude:	32° 11' 36.704 N
		Longitude:	103° 43' 13.170 W
		Ground Level:	3,541.5 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2022	5/1/2022	6.52	59.82	47,574.04865697

Design	PWP1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	181.64	

Plan Survey Tool Program	Date	4/24/2024			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	1,200.0	PWP1 (OWB)	r.5 SDI_KPR_WL_NS-CT	
				SDI Keeper Wireline Gyrocomp	
2	1,200.0	22,285.7	PWP1 (OWB)	r.5 MWD+IFR1+MS	
				OWSG MWD + IFR1 + Multi-St	

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Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,700.0	10.00	323.00	1,697.5	34.8	-26.2	2.00	2.00	0.00	323.00	
4,576.2	10.00	323.00	4,530.0	433.6	-326.8	0.00	0.00	0.00	0.00	
5,576.2	0.00	0.00	5,524.9	503.2	-379.2	1.00	-1.00	0.00	180.00	
11,708.8	0.00	0.00	11,657.5	503.2	-379.2	0.00	0.00	0.00	0.00	
12,458.8	90.00	176.00	12,135.0	26.9	-345.8	12.00	12.00	0.00	176.00	
12,641.4	90.00	179.65	12,135.0	-155.6	-338.9	2.00	0.00	2.00	90.00	
22,286.2	90.00	179.65	12,135.0	-9,800.2	-280.3	0.00	0.00	0.00	0.00	

ConocoPhillips

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Site:	WINDWARD FEDERAL PROJECT	North Reference:	Grid
Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
1,300.0	2.00	323.00	1,300.0	1.4	-1.1	-1.4	2.00	2.00	0.00
1,400.0	4.00	323.00	1,399.8	5.6	-4.2	-5.5	2.00	2.00	0.00
1,500.0	6.00	323.00	1,499.5	12.5	-9.4	-12.3	2.00	2.00	0.00
1,600.0	8.00	323.00	1,598.7	22.3	-16.8	-21.8	2.00	2.00	0.00
1,700.0	10.00	323.00	1,697.5	34.8	-26.2	-34.0	2.00	2.00	0.00
Start 2876.2 hold at 1700.0 MD									
1,800.0	10.00	323.00	1,795.9	48.6	-36.6	-47.6	0.00	0.00	0.00
1,900.0	10.00	323.00	1,894.4	62.5	-47.1	-61.1	0.00	0.00	0.00
2,000.0	10.00	323.00	1,992.9	76.4	-57.5	-74.7	0.00	0.00	0.00
2,100.0	10.00	323.00	2,091.4	90.2	-68.0	-88.3	0.00	0.00	0.00
2,200.0	10.00	323.00	2,189.9	104.1	-78.4	-101.8	0.00	0.00	0.00
2,300.0	10.00	323.00	2,288.4	118.0	-88.9	-115.4	0.00	0.00	0.00
2,400.0	10.00	323.00	2,386.8	131.8	-99.3	-128.9	0.00	0.00	0.00
2,500.0	10.00	323.00	2,485.3	145.7	-109.8	-142.5	0.00	0.00	0.00
2,600.0	10.00	323.00	2,583.8	159.6	-120.2	-156.1	0.00	0.00	0.00
2,700.0	10.00	323.00	2,682.3	173.4	-130.7	-169.6	0.00	0.00	0.00
2,800.0	10.00	323.00	2,780.8	187.3	-141.1	-183.2	0.00	0.00	0.00
2,900.0	10.00	323.00	2,879.2	201.2	-151.6	-196.8	0.00	0.00	0.00
3,000.0	10.00	323.00	2,977.7	215.0	-162.0	-210.3	0.00	0.00	0.00
3,100.0	10.00	323.00	3,076.2	228.9	-172.5	-223.9	0.00	0.00	0.00
3,200.0	10.00	323.00	3,174.7	242.8	-182.9	-237.5	0.00	0.00	0.00
3,300.0	10.00	323.00	3,273.2	256.6	-193.4	-251.0	0.00	0.00	0.00
3,400.0	10.00	323.00	3,371.6	270.5	-203.8	-264.6	0.00	0.00	0.00
3,500.0	10.00	323.00	3,470.1	284.4	-214.3	-278.1	0.00	0.00	0.00
3,600.0	10.00	323.00	3,568.6	298.3	-224.8	-291.7	0.00	0.00	0.00
3,700.0	10.00	323.00	3,667.1	312.1	-235.2	-305.3	0.00	0.00	0.00
3,800.0	10.00	323.00	3,765.6	326.0	-245.7	-318.8	0.00	0.00	0.00
3,900.0	10.00	323.00	3,864.0	339.9	-256.1	-332.4	0.00	0.00	0.00
4,000.0	10.00	323.00	3,962.5	353.7	-266.6	-346.0	0.00	0.00	0.00
4,100.0	10.00	323.00	4,061.0	367.6	-277.0	-359.5	0.00	0.00	0.00
4,200.0	10.00	323.00	4,159.5	381.5	-287.5	-373.1	0.00	0.00	0.00
4,300.0	10.00	323.00	4,258.0	395.3	-297.9	-386.7	0.00	0.00	0.00
4,400.0	10.00	323.00	4,356.4	409.2	-308.4	-400.2	0.00	0.00	0.00
4,500.0	10.00	323.00	4,454.9	423.1	-318.8	-413.8	0.00	0.00	0.00
4,576.2	10.00	323.00	4,530.0	433.6	-326.8	-424.1	0.00	0.00	0.00
Start Drop -1.00									
4,600.0	9.76	323.00	4,553.4	436.9	-329.2	-427.3	1.00	-1.00	0.00
4,700.0	8.76	323.00	4,652.1	449.8	-338.9	-439.9	1.00	-1.00	0.00
4,800.0	7.76	323.00	4,751.1	461.2	-347.6	-451.1	1.00	-1.00	0.00

ConocoPhillips
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Company:	DELAWARE BASIN EAST	TVD Reference:	KB=32 @ 3573.5usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=32 @ 3573.5usft
Site:	WINDWARD FEDERAL PROJECT	North Reference:	Grid
Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.0	6.76	323.00	4,850.3	471.3	-355.2	-461.0	1.00	-1.00	0.00
5,000.0	5.76	323.00	4,949.7	480.0	-361.7	-469.5	1.00	-1.00	0.00
5,100.0	4.76	323.00	5,049.2	487.4	-367.3	-476.7	1.00	-1.00	0.00
5,200.0	3.76	323.00	5,149.0	493.3	-371.7	-482.5	1.00	-1.00	0.00
5,300.0	2.76	323.00	5,248.8	497.8	-375.1	-486.9	1.00	-1.00	0.00
5,400.0	1.76	323.00	5,348.7	501.0	-377.5	-490.0	1.00	-1.00	0.00
5,500.0	0.76	323.00	5,448.7	502.8	-378.9	-491.7	1.00	-1.00	0.00
5,576.2	0.00	0.00	5,524.9	503.2	-379.2	-492.1	1.00	-1.00	0.00
Start 6132.6 hold at 5576.2 MD									
5,600.0	0.00	0.00	5,548.7	503.2	-379.2	-492.1	0.00	0.00	0.00
5,700.0	0.00	0.00	5,648.7	503.2	-379.2	-492.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,748.7	503.2	-379.2	-492.1	0.00	0.00	0.00
5,900.0	0.00	0.00	5,848.7	503.2	-379.2	-492.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,948.7	503.2	-379.2	-492.1	0.00	0.00	0.00
6,100.0	0.00	0.00	6,048.7	503.2	-379.2	-492.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,148.7	503.2	-379.2	-492.1	0.00	0.00	0.00
6,300.0	0.00	0.00	6,248.7	503.2	-379.2	-492.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,348.7	503.2	-379.2	-492.1	0.00	0.00	0.00
6,500.0	0.00	0.00	6,448.7	503.2	-379.2	-492.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,548.7	503.2	-379.2	-492.1	0.00	0.00	0.00
6,700.0	0.00	0.00	6,648.7	503.2	-379.2	-492.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,748.7	503.2	-379.2	-492.1	0.00	0.00	0.00
6,900.0	0.00	0.00	6,848.7	503.2	-379.2	-492.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,948.7	503.2	-379.2	-492.1	0.00	0.00	0.00
7,100.0	0.00	0.00	7,048.7	503.2	-379.2	-492.1	0.00	0.00	0.00
7,200.0	0.00	0.00	7,148.7	503.2	-379.2	-492.1	0.00	0.00	0.00
7,300.0	0.00	0.00	7,248.7	503.2	-379.2	-492.1	0.00	0.00	0.00
7,400.0	0.00	0.00	7,348.7	503.2	-379.2	-492.1	0.00	0.00	0.00
7,500.0	0.00	0.00	7,448.7	503.2	-379.2	-492.1	0.00	0.00	0.00
7,600.0	0.00	0.00	7,548.7	503.2	-379.2	-492.1	0.00	0.00	0.00
7,700.0	0.00	0.00	7,648.7	503.2	-379.2	-492.1	0.00	0.00	0.00
7,800.0	0.00	0.00	7,748.7	503.2	-379.2	-492.1	0.00	0.00	0.00
7,900.0	0.00	0.00	7,848.7	503.2	-379.2	-492.1	0.00	0.00	0.00
8,000.0	0.00	0.00	7,948.7	503.2	-379.2	-492.1	0.00	0.00	0.00
8,100.0	0.00	0.00	8,048.7	503.2	-379.2	-492.1	0.00	0.00	0.00
8,200.0	0.00	0.00	8,148.7	503.2	-379.2	-492.1	0.00	0.00	0.00
8,300.0	0.00	0.00	8,248.7	503.2	-379.2	-492.1	0.00	0.00	0.00
8,400.0	0.00	0.00	8,348.7	503.2	-379.2	-492.1	0.00	0.00	0.00
8,500.0	0.00	0.00	8,448.7	503.2	-379.2	-492.1	0.00	0.00	0.00
8,600.0	0.00	0.00	8,548.7	503.2	-379.2	-492.1	0.00	0.00	0.00
8,700.0	0.00	0.00	8,648.7	503.2	-379.2	-492.1	0.00	0.00	0.00
8,800.0	0.00	0.00	8,748.7	503.2	-379.2	-492.1	0.00	0.00	0.00
8,900.0	0.00	0.00	8,848.7	503.2	-379.2	-492.1	0.00	0.00	0.00
9,000.0	0.00	0.00	8,948.7	503.2	-379.2	-492.1	0.00	0.00	0.00
9,100.0	0.00	0.00	9,048.7	503.2	-379.2	-492.1	0.00	0.00	0.00
9,200.0	0.00	0.00	9,148.7	503.2	-379.2	-492.1	0.00	0.00	0.00
9,300.0	0.00	0.00	9,248.7	503.2	-379.2	-492.1	0.00	0.00	0.00
9,400.0	0.00	0.00	9,348.7	503.2	-379.2	-492.1	0.00	0.00	0.00
9,500.0	0.00	0.00	9,448.7	503.2	-379.2	-492.1	0.00	0.00	0.00
9,600.0	0.00	0.00	9,548.7	503.2	-379.2	-492.1	0.00	0.00	0.00
9,700.0	0.00	0.00	9,648.7	503.2	-379.2	-492.1	0.00	0.00	0.00
9,800.0	0.00	0.00	9,748.7	503.2	-379.2	-492.1	0.00	0.00	0.00
9,900.0	0.00	0.00	9,848.7	503.2	-379.2	-492.1	0.00	0.00	0.00
10,000.0	0.00	0.00	9,948.7	503.2	-379.2	-492.1	0.00	0.00	0.00

ConocoPhillips

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Design:	PWP1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,100.0	0.00	0.00	10,048.7	503.2	-379.2	-492.1	0.00	0.00	0.00
10,200.0	0.00	0.00	10,148.7	503.2	-379.2	-492.1	0.00	0.00	0.00
10,300.0	0.00	0.00	10,248.7	503.2	-379.2	-492.1	0.00	0.00	0.00
10,400.0	0.00	0.00	10,348.7	503.2	-379.2	-492.1	0.00	0.00	0.00
10,500.0	0.00	0.00	10,448.7	503.2	-379.2	-492.1	0.00	0.00	0.00
10,600.0	0.00	0.00	10,548.7	503.2	-379.2	-492.1	0.00	0.00	0.00
10,700.0	0.00	0.00	10,648.7	503.2	-379.2	-492.1	0.00	0.00	0.00
10,800.0	0.00	0.00	10,748.7	503.2	-379.2	-492.1	0.00	0.00	0.00
10,900.0	0.00	0.00	10,848.7	503.2	-379.2	-492.1	0.00	0.00	0.00
11,000.0	0.00	0.00	10,948.7	503.2	-379.2	-492.1	0.00	0.00	0.00
11,100.0	0.00	0.00	11,048.7	503.2	-379.2	-492.1	0.00	0.00	0.00
11,200.0	0.00	0.00	11,148.7	503.2	-379.2	-492.1	0.00	0.00	0.00
11,300.0	0.00	0.00	11,248.7	503.2	-379.2	-492.1	0.00	0.00	0.00
11,400.0	0.00	0.00	11,348.7	503.2	-379.2	-492.1	0.00	0.00	0.00
11,500.0	0.00	0.00	11,448.7	503.2	-379.2	-492.1	0.00	0.00	0.00
11,600.0	0.00	0.00	11,548.7	503.2	-379.2	-492.1	0.00	0.00	0.00
11,700.0	0.00	0.00	11,648.7	503.2	-379.2	-492.1	0.00	0.00	0.00
11,708.8	0.00	0.00	11,657.5	503.2	-379.2	-492.1	0.00	0.00	0.00
Start Build 12.00									
11,800.0	10.94	176.00	11,748.1	494.5	-378.5	-483.5	12.00	12.00	0.00
11,900.0	22.94	176.00	11,843.6	465.5	-376.5	-454.5	12.00	12.00	0.00
12,000.0	34.94	176.00	11,931.0	417.3	-373.2	-406.4	12.00	12.00	0.00
12,031.1	38.67	176.00	11,955.9	398.7	-371.9	-387.9	12.00	12.00	0.00
FTP(WINDWARD FED #708H)									
12,100.0	46.94	176.00	12,006.4	352.0	-368.6	-341.4	12.00	12.00	0.00
12,200.0	58.94	176.00	12,066.5	272.6	-363.0	-262.1	12.00	12.00	0.00
12,300.0	70.94	176.00	12,108.8	182.4	-356.7	-172.1	12.00	12.00	0.00
12,400.0	82.94	176.00	12,131.3	85.4	-349.9	-75.3	12.00	12.00	0.00
12,458.8	90.00	176.00	12,135.0	26.9	-345.8	-17.0	12.00	12.00	0.00
Start DLS 2.00 TFO 90.00									
12,500.0	90.00	176.82	12,135.0	-14.3	-343.3	24.1	2.00	0.00	2.00
12,600.0	90.00	178.82	12,135.0	-114.2	-339.5	123.8	2.00	0.00	2.00
12,641.4	90.00	179.65	12,135.0	-155.6	-338.9	165.2	2.00	0.00	2.00
Start 9644.8 hold at 12641.4 MD									
12,700.0	90.00	179.65	12,135.0	-214.2	-338.6	223.8	0.00	0.00	0.00
12,800.0	90.00	179.65	12,135.0	-314.2	-338.0	323.7	0.00	0.00	0.00
12,900.0	90.00	179.65	12,135.0	-414.2	-337.4	423.7	0.00	0.00	0.00
13,000.0	90.00	179.65	12,135.0	-514.2	-336.7	523.6	0.00	0.00	0.00
13,100.0	90.00	179.65	12,135.0	-614.2	-336.1	623.5	0.00	0.00	0.00
13,200.0	90.00	179.65	12,135.0	-714.2	-335.5	723.5	0.00	0.00	0.00
13,300.0	90.00	179.65	12,135.0	-814.2	-334.9	823.4	0.00	0.00	0.00
13,400.0	90.00	179.65	12,135.0	-914.2	-334.3	923.4	0.00	0.00	0.00
13,500.0	90.00	179.65	12,135.0	-1,014.2	-333.7	1,023.3	0.00	0.00	0.00
13,600.0	90.00	179.65	12,135.0	-1,114.2	-333.1	1,123.2	0.00	0.00	0.00
13,700.0	90.00	179.65	12,135.0	-1,214.2	-332.5	1,223.2	0.00	0.00	0.00
13,800.0	90.00	179.65	12,135.0	-1,314.2	-331.9	1,323.1	0.00	0.00	0.00
13,900.0	90.00	179.65	12,135.0	-1,414.2	-331.3	1,423.1	0.00	0.00	0.00
14,000.0	90.00	179.65	12,135.0	-1,514.2	-330.7	1,523.0	0.00	0.00	0.00
14,100.0	90.00	179.65	12,135.0	-1,614.2	-330.1	1,622.9	0.00	0.00	0.00
14,200.0	90.00	179.65	12,135.0	-1,714.2	-329.5	1,722.9	0.00	0.00	0.00
14,300.0	90.00	179.65	12,135.0	-1,814.2	-328.8	1,822.8	0.00	0.00	0.00
14,400.0	90.00	179.65	12,135.0	-1,914.2	-328.2	1,922.8	0.00	0.00	0.00
14,500.0	90.00	179.65	12,135.0	-2,014.1	-327.6	2,022.7	0.00	0.00	0.00

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB=32 @ 3573.5usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=32 @ 3573.5usft
Site:	WINDWARD FEDERAL PROJECT	North Reference:	Grid
Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,600.0	90.00	179.65	12,135.0	-2,114.1	-327.0	2,122.6	0.00	0.00	0.00
14,700.0	90.00	179.65	12,135.0	-2,214.1	-326.4	2,222.6	0.00	0.00	0.00
14,800.0	90.00	179.65	12,135.0	-2,314.1	-325.8	2,322.5	0.00	0.00	0.00
14,900.0	90.00	179.65	12,135.0	-2,414.1	-325.2	2,422.5	0.00	0.00	0.00
15,000.0	90.00	179.65	12,135.0	-2,514.1	-324.6	2,522.4	0.00	0.00	0.00
15,100.0	90.00	179.65	12,135.0	-2,614.1	-324.0	2,622.3	0.00	0.00	0.00
15,200.0	90.00	179.65	12,135.0	-2,714.1	-323.4	2,722.3	0.00	0.00	0.00
15,300.0	90.00	179.65	12,135.0	-2,814.1	-322.8	2,822.2	0.00	0.00	0.00
15,400.0	90.00	179.65	12,135.0	-2,914.1	-322.2	2,922.2	0.00	0.00	0.00
15,500.0	90.00	179.65	12,135.0	-3,014.1	-321.5	3,022.1	0.00	0.00	0.00
15,600.0	90.00	179.65	12,135.0	-3,114.1	-320.9	3,122.0	0.00	0.00	0.00
15,700.0	90.00	179.65	12,135.0	-3,214.1	-320.3	3,222.0	0.00	0.00	0.00
15,800.0	90.00	179.65	12,135.0	-3,314.1	-319.7	3,321.9	0.00	0.00	0.00
15,900.0	90.00	179.65	12,135.0	-3,414.1	-319.1	3,421.9	0.00	0.00	0.00
16,000.0	90.00	179.65	12,135.0	-3,514.1	-318.5	3,521.8	0.00	0.00	0.00
16,100.0	90.00	179.65	12,135.0	-3,614.1	-317.9	3,621.7	0.00	0.00	0.00
16,200.0	90.00	179.65	12,135.0	-3,714.1	-317.3	3,721.7	0.00	0.00	0.00
16,300.0	90.00	179.65	12,135.0	-3,814.1	-316.7	3,821.6	0.00	0.00	0.00
16,400.0	90.00	179.65	12,135.0	-3,914.1	-316.1	3,921.5	0.00	0.00	0.00
16,500.0	90.00	179.65	12,135.0	-4,014.1	-315.5	4,021.5	0.00	0.00	0.00
16,600.0	90.00	179.65	12,135.0	-4,114.1	-314.9	4,121.4	0.00	0.00	0.00
16,700.0	90.00	179.65	12,135.0	-4,214.1	-314.3	4,221.4	0.00	0.00	0.00
16,800.0	90.00	179.65	12,135.0	-4,314.1	-313.6	4,321.3	0.00	0.00	0.00
16,900.0	90.00	179.65	12,135.0	-4,414.1	-313.0	4,421.2	0.00	0.00	0.00
17,000.0	90.00	179.65	12,135.0	-4,514.1	-312.4	4,521.2	0.00	0.00	0.00
17,100.0	90.00	179.65	12,135.0	-4,614.1	-311.8	4,621.1	0.00	0.00	0.00
17,200.0	90.00	179.65	12,135.0	-4,714.1	-311.2	4,721.1	0.00	0.00	0.00
17,300.0	90.00	179.65	12,135.0	-4,814.1	-310.6	4,821.0	0.00	0.00	0.00
17,400.0	90.00	179.65	12,135.0	-4,914.1	-310.0	4,920.9	0.00	0.00	0.00
17,500.0	90.00	179.65	12,135.0	-5,014.1	-309.4	5,020.9	0.00	0.00	0.00
17,600.0	90.00	179.65	12,135.0	-5,114.1	-308.8	5,120.8	0.00	0.00	0.00
17,700.0	90.00	179.65	12,135.0	-5,214.1	-308.2	5,220.8	0.00	0.00	0.00
17,800.0	90.00	179.65	12,135.0	-5,314.1	-307.6	5,320.7	0.00	0.00	0.00
17,900.0	90.00	179.65	12,135.0	-5,414.1	-307.0	5,420.6	0.00	0.00	0.00
18,000.0	90.00	179.65	12,135.0	-5,514.1	-306.4	5,520.6	0.00	0.00	0.00
18,100.0	90.00	179.65	12,135.0	-5,614.1	-305.7	5,620.5	0.00	0.00	0.00
18,200.0	90.00	179.65	12,135.0	-5,714.1	-305.1	5,720.5	0.00	0.00	0.00
18,300.0	90.00	179.65	12,135.0	-5,814.1	-304.5	5,820.4	0.00	0.00	0.00
18,400.0	90.00	179.65	12,135.0	-5,914.1	-303.9	5,920.3	0.00	0.00	0.00
18,500.0	90.00	179.65	12,135.0	-6,014.1	-303.3	6,020.3	0.00	0.00	0.00
18,600.0	90.00	179.65	12,135.0	-6,114.1	-302.7	6,120.2	0.00	0.00	0.00
18,700.0	90.00	179.65	12,135.0	-6,214.1	-302.1	6,220.2	0.00	0.00	0.00
18,800.0	90.00	179.65	12,135.0	-6,314.1	-301.5	6,320.1	0.00	0.00	0.00
18,900.0	90.00	179.65	12,135.0	-6,414.1	-300.9	6,420.0	0.00	0.00	0.00
19,000.0	90.00	179.65	12,135.0	-6,514.1	-300.3	6,520.0	0.00	0.00	0.00
19,100.0	90.00	179.65	12,135.0	-6,614.1	-299.7	6,619.9	0.00	0.00	0.00
19,200.0	90.00	179.65	12,135.0	-6,714.1	-299.1	6,719.9	0.00	0.00	0.00
19,300.0	90.00	179.65	12,135.0	-6,814.1	-298.5	6,819.8	0.00	0.00	0.00
19,400.0	90.00	179.65	12,135.0	-6,914.1	-297.8	6,919.7	0.00	0.00	0.00
19,500.0	90.00	179.65	12,135.0	-7,014.1	-297.2	7,019.7	0.00	0.00	0.00
19,600.0	90.00	179.65	12,135.0	-7,114.1	-296.6	7,119.6	0.00	0.00	0.00
19,700.0	90.00	179.65	12,135.0	-7,214.1	-296.0	7,219.6	0.00	0.00	0.00
19,800.0	90.00	179.65	12,135.0	-7,314.1	-295.4	7,319.5	0.00	0.00	0.00
19,900.0	90.00	179.65	12,135.0	-7,414.0	-294.8	7,419.4	0.00	0.00	0.00

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB=32 @ 3573.5usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=32 @ 3573.5usft
Site:	WINDWARD FEDERAL PROJECT	North Reference:	Grid
Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
20,000.0	90.00	179.65	12,135.0	-7,514.0	-294.2	7,519.4	0.00	0.00	0.00	
20,100.0	90.00	179.65	12,135.0	-7,614.0	-293.6	7,619.3	0.00	0.00	0.00	
20,200.0	90.00	179.65	12,135.0	-7,714.0	-293.0	7,719.3	0.00	0.00	0.00	
20,300.0	90.00	179.65	12,135.0	-7,814.0	-292.4	7,819.2	0.00	0.00	0.00	
20,400.0	90.00	179.65	12,135.0	-7,914.0	-291.8	7,919.1	0.00	0.00	0.00	
20,500.0	90.00	179.65	12,135.0	-8,014.0	-291.2	8,019.1	0.00	0.00	0.00	
20,600.0	90.00	179.65	12,135.0	-8,114.0	-290.5	8,119.0	0.00	0.00	0.00	
20,700.0	90.00	179.65	12,135.0	-8,214.0	-289.9	8,219.0	0.00	0.00	0.00	
20,800.0	90.00	179.65	12,135.0	-8,314.0	-289.3	8,318.9	0.00	0.00	0.00	
20,900.0	90.00	179.65	12,135.0	-8,414.0	-288.7	8,418.8	0.00	0.00	0.00	
21,000.0	90.00	179.65	12,135.0	-8,514.0	-288.1	8,518.8	0.00	0.00	0.00	
21,100.0	90.00	179.65	12,135.0	-8,614.0	-287.5	8,618.7	0.00	0.00	0.00	
21,200.0	90.00	179.65	12,135.0	-8,714.0	-286.9	8,718.7	0.00	0.00	0.00	
21,300.0	90.00	179.65	12,135.0	-8,814.0	-286.3	8,818.6	0.00	0.00	0.00	
21,400.0	90.00	179.65	12,135.0	-8,914.0	-285.7	8,918.5	0.00	0.00	0.00	
21,500.0	90.00	179.65	12,135.0	-9,014.0	-285.1	9,018.5	0.00	0.00	0.00	
21,600.0	90.00	179.65	12,135.0	-9,114.0	-284.5	9,118.4	0.00	0.00	0.00	
21,700.0	90.00	179.65	12,135.0	-9,214.0	-283.9	9,218.4	0.00	0.00	0.00	
21,800.0	90.00	179.65	12,135.0	-9,314.0	-283.3	9,318.3	0.00	0.00	0.00	
21,900.0	90.00	179.65	12,135.0	-9,414.0	-282.6	9,418.2	0.00	0.00	0.00	
22,000.0	90.00	179.65	12,135.0	-9,514.0	-282.0	9,518.2	0.00	0.00	0.00	
22,100.0	90.00	179.65	12,135.0	-9,614.0	-281.4	9,618.1	0.00	0.00	0.00	
22,200.0	90.00	179.65	12,135.0	-9,714.0	-280.8	9,718.1	0.00	0.00	0.00	
LTP(WINDWARD FED #708H)										
22,286.2	90.00	179.65	12,135.0	-9,800.2	-280.3	9,804.2	0.00	0.00	0.00	
TD at 22286.2 - PBHL(WINDWARD FED #708H)										

Design Targets										
Target Name										
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
- Shape										
FTP(WINDWARD FED #	0.00	0.00	12,135.0	607.6	-343.8	435,273.90	689,286.90	32° 11' 42.736 N		103° 43' 17.130 W
- plan misses target center by 276.6usft at 12031.1usft MD (11955.9 TVD, 398.7 N, -371.9 E)										
- Circle (radius 50.0)										
LTP(WINDWARD FED #	90.00	179.50	12,135.0	-9,750.2	-280.6	424,916.10	689,350.10	32° 10' 0.233 N		103° 43' 17.081 W
- plan misses target center by 36.2usft at 22200.0usft MD (12135.0 TVD, -9714.0 N, -280.8 E)										
- Circle (radius 50.0)										
PBHL(WINDWARD FED	0.00	359.65	12,135.0	-9,800.2	-280.3	424,866.10	689,350.40	32° 9' 59.738 N		103° 43' 17.080 W
- plan hits target center										
- Rectangle (sides W100.0 H10,407.0 D20.0)										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
22,286.2	12,135.0	5-1/2" Production Casing		5-1/2	6

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB=32 @ 3573.5usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=32 @ 3573.5usft
Site:	WINDWARD FEDERAL PROJECT	North Reference:	Grid
Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,200.0	1,200.0	0.0	0.0	Start Build 2.00	
1,700.0	1,697.5	34.8	-26.2	Start 2876.2 hold at 1700.0 MD	
4,576.2	4,530.0	433.6	-326.8	Start Drop -1.00	
5,576.2	5,524.9	503.2	-379.2	Start 6132.6 hold at 5576.2 MD	
11,708.8	11,657.5	503.2	-379.2	Start Build 12.00	
12,458.8	12,135.0	26.9	-345.8	Start DLS 2.00 TFO 90.00	
12,641.4	12,135.0	-155.6	-338.9	Start 9644.8 hold at 12641.4 MD	
22,286.2	12,135.0	-9,800.2	-280.3	TD at 22286.2	

COG Operating, LLC - Windward Federal 708H

1. Geologic Formations

TVD of target	12,135' EOL	Pilot hole depth	NA
MD at TD:	22,286'	Deepest expected fresh water:	380'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	776	Water	
Top of Salt	1072	Salt	
Base of Salt	4391	Salt	
Lamar	4627	Salt Water	
Bell Canyon	4651	Salt Water	
Cherry Canyon	5569	Oil/Gas	
Brushy Canyon	6863	Oil/Gas	
Bone Spring	8490	Oil/Gas	
1st Bone Spring Sand	9629	Oil/Gas	
1st Bone Spring Shale	9864	Oil/Gas	
2nd Bone Spring Sand	10233	Oil/Gas	
3rd Bone Spring Sand	11606	Oil/Gas	
Wolfcamp	11957	Oil/Gas	
Wolfcamp A	12086	Oil/Gas	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
17.50	0	930	13.375"	54.5	J55	BTC	2.66	1.43	16.83	17.93
9.875"	0	8500	7.625"	29.7	L80-ICY	BTC	1.33	1.00	2.88	2.90
8.750"	8500	11550	7.625"	29.7	P110-ICY	W513	1.23	1.52	3.11	1.87
6.75"	0	11350	5.5"	23	P110-CY	BTC	1.82	2.13	2.79	2.79
6.75"	11350	22,286	5.5"	23	P110-CY	W441	1.71	1.99	2.61	2.37
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

2b. Contingency Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
17.50"	0	930	13.375"	54.5	J55	BTC	2.66	1.43	16.83	17.93
12.25"	0	4530	9.625"	40	L80-IC	BTC	1.64	1.27	5.06	5.23
8.75"	4330	11550	7.625"	29.7	P110-ICY	W513	1.23	1.52	3.11	1.87
6.75"	0	11350	5.5"	23	P110-CY	BTC	1.82	2.13	2.79	2.79
6.75"	11350	22,286	5.5"	23	P110-CY	W441	1.71	1.99	2.61	2.37
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Surface burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface and

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172

Contingency program will be run if large water flows or losses are encountered.

The 5 1/2" W441 casing will be run back 200' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.

April 25, 2024

1

COG Operating, LLC - Windward Federal 708H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary?	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

COG Operating, LLC - Windward Federal 708H

3. Cementing Program

Casing	# Sk	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	450	12.8	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter. Stage 1	840	10.3	3.3	22	24	Halliburton tuned light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	720	12.5	1.48	10.7	72	Lead: 50:50:10 H Blend
	820	13.2	1.34	5.7	19	Tail: 50:50:2 Class H Blend

If losses are encountered in the intermediate section a DV/ECP tool will be run ~50' above the Lamar Lime top, cement will be adjusted accordingly if this contingency is necessary.

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results

Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	50%
1 st Intermediate	0'	50%
Production	11,050'	20% OH in Lateral (KOP to EOL)

3b. Contingency Cementing Program

Casing	# Sk	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	560	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Int. #1	670	12.8	1.75	9.21	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	390	14.8	1.35	6.6	8	Tail: Class C + 2% CaCl ₂
Inter. #2 (Liner)	200	10.5	3.3	22	24	Tuned light
	90	14.8	1.35	6.6	8	Tail: Class H
Prod	850	12.5	1.48	10.7	72	Lead: 50:50:10 H Blend
	820	13.2	1.34	5.7	19	Tail: 50:50:2 Class H Blend

Contingency program will be run if large water flows or losses are encountered.

Casing String	TOC	% Excess
Surface	0'	50%
1 st Intermediate	0'	50%
2 nd Intermediate	4,330'	20%
Production	11,300'	20% OH in Lateral (KOP to EOL)

COG Operating, LLC - Windward Federal 708H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
Y	A variance is requested for the use of BOPE break testing on intermediate skids (in accordance with the 30 day full BOPE test requirements).

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12-1/4" or 9-7/8"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4"	13-5/8"	10M	5M Annular	x	5000psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR Part 3170 Subpart 3172 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with 43 CFR Part 3170 Subpart 3172.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per 43 CFR Part 3170 Subpart 3172 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

COG Operating, LLC - Windward Federal 708H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	7-5/8" Int shoe	Brine Diesel Emulsion	8.4 - 10	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9.6 - 13.5	35-45	<20

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
---	-----------------------------

5b. Contingency Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	9-5/8" Int shoe	Brine	8.4 - 10	28-34	N/C
9-5/8" Int shoe	7-5/8" Int shoe	Brine	8.4 - 10	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9.6 - 13.5	35-45	<20

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
Y	No Logs are planned based on well control or offset log information.
N	Drill stem test? If yes, explain.
N	Coring? If yes, explain.

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

COG Operating, LLC - Windward Federal 708H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	8520 psi at 12135' TVD
Abnormal Temperature	NO 175 Deg. F.

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR Part 3170 Subpart 3176. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

N H₂S is present

Y H₂S Plan attached

8. Other Facets of Operation

Y	Is it a walking operation?
Y	Is casing pre-set?

x	H ₂ S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

DELAWARE BASIN EAST

LEA COUNTY SOUTHEAST

WINDWARD FEDERAL PROJECT

WINDWARD FEDERAL 708H

300255245100

OWB

PWP1

Anticollision Report

24 April, 2024

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Reference	PWP1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,000.0usft	Error Surface:	Combined Pedal Curve
Warning Levels Evaluated at:	2.79 Sigma	Casing Method:	Added to Error Values

Survey Tool Program		Date	4/24/2024	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	1,200.0	PWP1 (OWB)	r.5 SDI_KPR_WL_NS-CT	SDI Keeper Wireline Gyrocomp-Initilzd Cont. rev.5
1,200.0	22,285.7	PWP1 (OWB)	r.5 MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction rev.5

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WINDWARD FEDERAL PROJECT						
KING TUT FEDERAL 1H - OWB - AWP	4,612.4	4,558.7	69.0	40.7	2.439	Caution - Monitor Closely, C
KING TUT FEDERAL 1H - OWB - AWP	7,814.3	7,756.8	80.3	40.5	2.019	Caution - Monitor Closely, E
WINDWARD FEDERAL 1H - OWB - AWP	4,541.7	4,485.6	132.3	111.4	6.325	CC
WINDWARD FEDERAL 1H - OWB - AWP	9,904.4	9,847.0	141.1	106.6	4.088	ES
WINDWARD FEDERAL 1H - OWB - AWP	10,000.0	9,935.1	143.5	108.3	4.075	SF
WINDWARD FEDERAL 5H - OWB - AWP	4,083.4	4,033.8	190.0	172.7	10.998	CC
WINDWARD FEDERAL 5H - OWB - AWP	4,100.0	4,050.0	190.0	172.7	10.981	ES
WINDWARD FEDERAL 5H - OWB - AWP	8,900.0	8,834.4	236.2	198.4	6.236	SF
WINDWARD FEDERAL 6H - OWB - AWP	3,953.9	3,912.6	197.4	183.9	14.610	CC, ES
WINDWARD FEDERAL 6H - OWB - AWP	7,000.0	6,937.2	358.9	330.0	12.399	SF
WINDWARD FEDERAL 704H - OWB - PWP1	1,200.0	1,199.5	89.9	81.1	10.165	CC, ES
WINDWARD FEDERAL 704H - OWB - PWP1	1,300.0	1,296.6	92.5	83.3	10.027	SF
WINDWARD FEDERAL 705H - OWB - PWP1	1,200.0	1,199.8	59.9	51.1	6.773	CC, ES
WINDWARD FEDERAL 705H - OWB - PWP1	1,300.0	1,298.0	62.4	53.1	6.770	SF
WINDWARD FEDERAL 706H - OWB - PWP1	1,200.0	1,199.9	29.9	21.2	3.417	CC, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

TD Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WINDWARD FEDERAL PROJECT						
KING TUT FEDERAL 1H - OWB - AWP	22,286.2	18,083.0				Out of Range @TD
WINDWARD FEDERAL 1H - OWB - AWP	22,286.2	14,872.0				Out of Range @TD
WINDWARD FEDERAL 5H - OWB - AWP	22,286.2	19,108.0				Out of Range @TD
WINDWARD FEDERAL 6H - OWB - AWP	22,286.2	18,860.6				Out of Range @TD
WINDWARD FEDERAL 704H - OWB - PWP1	22,286.2	22,533.6				Out of Range @TD
WINDWARD FEDERAL 705H - OWB - PWP1	22,286.2	22,515.6				Out of Range @TD
WINDWARD FEDERAL 706H - OWB - PWP1	22,286.2	22,373.9	694.1	540.0	4.505	

Offset Design: WINDWARD FEDERAL PROJECT - KING TUT FEDERAL 1H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 211-r.5 MWD													Offset Well Error: 0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	7.5	3.0	0.0	-33.55	517.6	-343.3	621.1				
100.0	100.0	94.6	102.1	3.0	1.0	-33.52	517.7	-342.9	620.9	616.0	4.96	125.256	
200.0	200.0	196.8	204.3	3.2	2.1	-33.39	518.0	-341.4	620.4	614.6	5.80	106.964	
300.0	300.0	293.6	301.1	3.3	2.6	-33.25	518.4	-340.0	619.9	613.6	6.30	98.346	
400.0	400.0	393.7	401.2	3.4	3.4	-33.20	518.7	-339.4	619.9	612.7	7.13	86.941	
500.0	500.0	495.5	503.0	3.5	4.3	-33.12	518.8	-338.5	619.5	611.3	8.21	75.501	
600.0	600.0	597.3	604.7	3.7	5.1	-33.03	518.9	-337.3	618.9	609.7	9.16	67.545	
700.0	700.0	699.0	706.5	3.8	5.8	-32.91	518.8	-335.8	618.0	608.1	9.93	62.224	
800.0	800.0	799.9	807.3	3.9	6.3	-32.78	518.5	-334.0	616.8	606.2	10.67	57.835	
900.0	900.0	898.9	906.3	4.0	6.8	-32.68	518.2	-332.4	615.7	604.4	11.31	54.431	
1,000.0	1,000.0	998.4	1,005.9	4.2	7.3	-32.62	517.8	-331.4	614.8	602.8	11.98	51.303	
1,100.0	1,100.0	1,100.6	1,108.0	4.3	7.9	-32.56	517.2	-330.2	613.6	600.9	12.75	48.126	
1,200.0	1,200.0	1,202.7	1,210.1	4.4	8.5	-32.49	516.3	-328.7	612.2	598.6	13.53	45.241	
1,300.0	1,300.0	1,302.7	1,310.1	4.6	8.9	4.61	515.3	-327.2	608.7	594.6	14.09	43.205	
1,400.0	1,399.8	1,401.9	1,409.2	4.8	9.2	4.74	514.4	-325.6	601.9	587.3	14.61	41.202	
1,500.0	1,499.5	1,500.8	1,508.1	5.1	9.5	4.90	513.5	-324.2	591.7	576.5	15.21	38.900	
1,600.0	1,598.7	1,599.3	1,606.6	5.4	9.9	5.10	512.7	-322.8	578.2	562.4	15.83	36.531	
1,700.0	1,697.5	1,697.3	1,704.6	5.8	10.2	5.34	512.0	-321.5	561.3	544.9	16.44	34.150	
1,800.0	1,795.9	1,795.0	1,802.3	6.1	10.5	5.59	511.4	-320.3	542.8	525.8	17.00	31.928	
1,900.0	1,894.4	1,892.8	1,900.1	6.3	11.2	5.84	510.8	-319.2	524.4	506.4	18.05	29.058	
2,000.0	1,992.9	1,990.6	1,997.9	6.6	12.0	6.11	510.2	-318.1	506.1	487.0	19.13	26.455	
2,100.0	2,091.4	2,088.4	2,095.7	7.0	12.7	6.40	509.8	-317.1	487.9	467.7	20.23	24.122	
2,200.0	2,189.9	2,186.6	2,193.9	7.3	13.1	6.71	509.3	-316.2	469.8	448.9	20.92	22.460	
2,300.0	2,288.4	2,285.0	2,292.3	7.7	13.3	7.06	508.9	-315.2	451.7	430.3	21.41	21.096	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - KING TUT FEDERAL 1H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program: 211-r.5 MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
2,400.0	2,386.8	2,383.4	2,390.7	8.0	13.6	7.44	508.5	-314.1	433.6	411.7	21.95	19.759		
2,500.0	2,485.3	2,481.7	2,489.0	8.4	13.9	7.86	508.2	-313.0	415.6	393.1	22.49	18.475		
2,600.0	2,583.8	2,579.8	2,587.1	8.8	14.3	8.28	507.7	-312.1	397.5	374.3	23.23	17.108		
2,700.0	2,682.3	2,677.9	2,685.1	9.2	14.7	8.61	506.9	-312.0	379.6	355.5	24.02	15.801		
2,800.0	2,780.8	2,776.0	2,783.3	9.6	15.1	8.83	505.7	-312.6	361.7	336.9	24.81	14.575		
2,900.0	2,879.2	2,875.3	2,882.5	9.9	15.5	9.10	504.5	-313.2	343.7	318.1	25.63	13.408		
3,000.0	2,977.7	2,974.4	2,981.6	10.4	16.0	9.60	503.6	-312.7	325.5	299.1	26.45	12.306		
3,100.0	3,076.2	3,073.3	3,080.5	10.8	16.4	10.36	503.0	-311.0	307.1	279.8	27.26	11.266		
3,200.0	3,174.7	3,172.5	3,179.6	11.2	16.6	11.33	502.3	-308.8	288.5	260.8	27.67	10.427		
3,300.0	3,273.2	3,270.3	3,277.5	11.6	16.7	12.43	501.6	-306.5	269.9	241.8	28.10	9.604		
3,400.0	3,371.6	3,368.2	3,375.3	12.0	17.0	13.70	501.0	-304.2	251.4	222.8	28.65	8.775		
3,500.0	3,470.1	3,466.1	3,473.2	12.4	17.4	15.19	500.5	-301.9	233.2	203.9	29.24	7.974		
3,600.0	3,568.6	3,564.3	3,571.4	12.8	17.7	16.95	500.1	-299.5	215.2	185.5	29.79	7.226		
3,700.0	3,667.1	3,663.4	3,670.4	13.3	17.9	19.03	499.3	-297.1	197.2	167.0	30.18	6.535		
3,800.0	3,765.6	3,762.2	3,769.2	13.7	18.1	21.47	498.1	-294.7	179.0	148.5	30.50	5.870		
3,900.0	3,864.0	3,860.6	3,867.6	14.1	18.3	24.30	496.5	-292.6	160.9	130.2	30.73	5.236		
4,000.0	3,962.5	3,958.7	3,965.6	14.6	18.5	27.86	494.7	-290.4	143.0	112.2	30.87	4.634		
4,100.0	4,061.0	4,056.6	4,063.5	15.0	18.7	32.37	493.0	-288.3	125.9	95.0	30.91	4.074		
4,200.0	4,159.5	4,154.7	4,161.5	15.4	18.9	38.26	491.2	-286.1	109.7	79.0	30.76	3.567		
4,300.0	4,258.0	4,252.9	4,259.7	15.9	19.1	46.12	489.2	-283.8	94.9	64.7	30.24	3.140		
4,400.0	4,356.4	4,351.0	4,357.8	16.3	19.3	56.69	486.9	-281.4	82.2	52.9	29.32	2.805 Normal Operations		
4,500.0	4,454.9	4,448.9	4,455.6	16.7	19.5	70.28	484.3	-279.1	73.0	44.7	28.34	2.576 Normal Operations		
4,600.0	4,553.4	4,546.6	4,553.2	17.1	19.7	86.45	481.8	-276.8	69.1	40.9	28.20	2.449 Caution - Monitor Closely		
4,612.4	4,565.6	4,558.7	4,565.3	17.2	19.7	88.50	481.5	-276.5	69.0	40.7	28.30	2.439 Caution - Monitor Closely, CC		
4,700.0	4,652.1	4,644.4	4,651.0	17.6	19.9	102.23	479.3	-274.0	71.3	41.7	29.58	2.411 Caution - Monitor Closely		
4,800.0	4,751.1	4,744.0	4,750.5	18.0	20.1	114.75	477.3	-272.0	77.3	45.8	31.49	2.453 Caution - Monitor Closely		
4,900.0	4,850.3	4,844.7	4,851.2	18.4	20.2	123.40	476.4	-272.2	83.1	50.1	33.05	2.515 Normal Operations		
5,000.0	4,949.7	4,943.8	4,950.3	18.8	20.1	129.74	475.6	-273.1	88.7	54.5	34.25	2.590 Normal Operations		
5,100.0	5,049.2	5,043.2	5,049.7	19.2	20.2	134.49	474.9	-273.8	94.3	59.1	35.23	2.676 Normal Operations		
5,200.0	5,149.0	5,142.8	5,149.3	19.6	20.2	138.03	474.2	-274.3	99.3	63.3	36.03	2.756 Normal Operations		
5,300.0	5,248.8	5,242.7	5,249.2	19.9	20.2	140.60	473.5	-274.8	103.3	66.6	36.69	2.815 Normal Operations		
5,400.0	5,348.7	5,342.8	5,349.3	20.2	20.2	142.41	472.8	-275.4	106.0	68.8	37.20	2.849 Normal Operations		
5,500.0	5,448.7	5,443.1	5,449.6	20.5	20.2	143.64	472.1	-276.3	107.0	69.5	37.58	2.848 Normal Operations		
5,600.0	5,548.7	5,543.1	5,549.5	20.6	20.2	107.28	471.5	-277.3	106.6	68.9	37.73	2.826 Normal Operations		
5,700.0	5,648.7	5,643.1	5,649.6	20.7	20.2	107.79	470.8	-278.4	105.9	68.0	37.82	2.799 Normal Operations		
5,800.0	5,748.7	5,743.2	5,749.7	20.7	20.2	108.32	470.2	-279.5	105.0	67.1	37.91	2.769 Normal Operations		
5,900.0	5,848.7	5,843.0	5,849.4	20.8	20.2	108.88	469.5	-280.7	104.1	66.1	38.00	2.739 Normal Operations		
6,000.0	5,948.7	5,942.9	5,949.3	20.8	20.2	109.31	468.9	-281.5	103.5	65.4	38.09	2.717 Normal Operations		
6,100.0	6,048.7	6,043.1	6,049.5	20.9	20.1	109.75	468.4	-282.4	102.8	64.6	38.17	2.693 Normal Operations		
6,200.0	6,148.7	6,143.0	6,149.4	20.9	20.1	110.00	468.2	-283.2	102.1	63.9	38.20	2.672 Normal Operations		
6,300.0	6,248.7	6,243.5	6,249.9	21.0	20.1	110.45	467.8	-284.4	101.1	62.8	38.28	2.642 Normal Operations		
6,400.0	6,348.7	6,343.4	6,349.8	21.0	20.1	111.03	467.3	-285.9	99.9	61.6	38.37	2.604 Normal Operations		
6,500.0	6,448.7	6,443.2	6,449.6	21.1	20.1	111.73	466.5	-287.2	99.0	60.5	38.49	2.571 Normal Operations		
6,600.0	6,548.7	6,543.4	6,549.8	21.1	20.0	112.17	466.2	-288.5	97.9	59.4	38.57	2.540 Normal Operations		
6,700.0	6,648.7	6,643.5	6,649.9	21.2	20.0	112.53	466.0	-289.7	96.9	58.2	38.62	2.508 Normal Operations		
6,800.0	6,748.7	6,743.8	6,750.2	21.2	20.0	113.11	465.7	-291.4	95.4	56.7	38.71	2.464 Caution - Monitor Closely		
6,900.0	6,848.7	6,843.8	6,850.1	21.3	20.0	113.76	465.4	-293.3	93.8	55.1	38.80	2.419 Caution - Monitor Closely		
7,000.0	6,948.7	6,943.9	6,950.2	21.3	19.9	114.05	465.5	-294.9	92.3	53.5	38.83	2.377 Caution - Monitor Closely		
7,100.0	7,048.7	7,043.6	7,049.9	21.4	19.9	114.54	465.5	-296.7	90.7	51.8	38.90	2.332 Caution - Monitor Closely		
7,200.0	7,148.7	7,143.7	7,150.0	21.4	19.9	114.94	465.5	-298.1	89.4	50.5	38.95	2.296 Caution - Monitor Closely		
7,300.0	7,248.7	7,243.7	7,250.0	21.5	19.8	115.45	465.4	-299.9	87.8	48.8	39.03	2.250 Caution - Monitor Closely		
7,400.0	7,348.7	7,343.7	7,350.0	21.5	19.8	116.06	465.2	-301.5	86.4	47.3	39.13	2.209 Caution - Monitor Closely		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - KING TUT FEDERAL 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 211-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
7,500.0	7,448.7	7,443.9	7,450.1	21.6	19.8	116.81	464.9	-303.5	84.8	45.6	39.24	2.161	Caution - Monitor Closely
7,600.0	7,548.7	7,543.8	7,550.1	21.6	19.8	117.67	464.5	-305.5	83.2	43.8	39.38	2.112	Caution - Monitor Closely
7,700.0	7,648.7	7,643.6	7,649.8	21.7	19.8	118.66	464.0	-307.5	81.6	42.1	39.53	2.065	Caution - Monitor Closely
7,800.0	7,748.7	7,743.1	7,749.3	21.7	19.9	119.98	463.0	-309.5	80.4	40.6	39.73	2.023	Caution - Monitor Closely
7,814.3	7,763.0	7,756.8	7,763.0	21.7	19.9	120.25	462.7	-309.8	80.3	40.5	39.77	2.019	Caution - Monitor Closely, ES, SF
7,900.0	7,848.7	7,836.9	7,842.8	21.8	20.0	123.48	457.6	-310.3	82.8	42.7	40.07	2.066	Caution - Monitor Closely
8,000.0	7,948.7	7,926.1	7,930.3	21.8	20.2	132.20	440.0	-309.5	95.8	55.3	40.45	2.368	Caution - Monitor Closely
8,100.0	8,048.7	8,011.5	8,011.0	21.9	20.4	141.97	412.5	-308.2	121.1	80.9	40.20	3.013	
8,200.0	8,148.7	8,088.5	8,080.2	21.9	20.6	150.20	378.9	-308.0	158.7	119.5	39.17	4.051	
8,300.0	8,248.7	8,156.3	8,138.0	22.0	20.8	155.97	343.4	-307.9	207.1	169.2	37.89	5.464	
8,400.0	8,348.7	8,215.7	8,185.4	22.0	21.0	159.69	307.7	-306.8	264.8	228.0	36.74	7.207	
8,500.0	8,448.7	8,266.6	8,223.3	22.1	21.1	162.50	273.7	-306.8	329.7	293.9	35.74	9.225	
8,600.0	8,548.7	8,304.0	8,248.9	22.1	21.2	164.42	246.4	-307.6	401.2	366.4	34.73	11.552	
8,700.0	8,648.7	8,345.6	8,275.2	22.2	21.3	166.25	214.2	-308.4	477.5	443.2	34.27	13.932	
8,800.0	8,748.7	8,379.3	8,295.1	22.2	21.4	167.44	187.1	-308.8	557.4	523.5	33.89	16.447	
8,900.0	8,848.7	8,410.1	8,312.1	22.3	21.5	168.34	161.4	-308.6	640.0	606.4	33.66	19.014	
9,000.0	8,948.7	8,430.0	8,322.7	22.3	21.5	168.84	144.5	-308.4	724.9	691.5	33.41	21.700	
9,100.0	9,048.7	8,461.0	8,337.9	22.4	21.6	169.50	117.5	-307.7	811.8	778.3	33.48	24.248	
9,200.0	9,148.7	8,472.9	8,343.3	22.4	21.6	169.73	106.9	-307.4	900.4	867.1	33.37	26.983	
9,300.0	9,248.7	8,493.0	8,351.8	22.5	21.7	170.08	88.8	-306.7	990.6	957.1	33.46	29.602	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 239-r.5 MWD, 761-r.5 MWD, 4644-r.5 MWD, 9817-r.5 MWD												Offset Well Error:	2.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	8.5	3.0	2.0	-25.15	518.3	-243.3	572.6				
100.0	100.0	89.4	97.9	3.0	2.3	-25.13	518.5	-243.2	572.7	566.9	5.79	98.943	
200.0	200.0	187.2	195.7	3.2	3.1	-25.07	519.3	-242.9	573.3	566.7	6.62	86.572	
300.0	300.0	289.4	297.9	3.3	3.6	-24.98	520.3	-242.4	574.1	566.7	7.31	78.490	
400.0	400.0	389.2	397.7	3.4	3.8	-24.90	521.0	-241.8	574.4	566.8	7.61	75.513	
500.0	500.0	489.4	497.9	3.5	4.4	-24.81	521.7	-241.1	574.7	566.4	8.30	69.260	
600.0	600.0	589.6	598.0	3.7	5.5	-24.72	522.4	-240.5	575.1	565.5	9.59	59.970	
700.0	700.0	689.7	698.2	3.8	6.6	-24.63	523.1	-239.8	575.4	564.4	10.98	52.421	
800.0	800.0	791.4	799.9	3.9	7.0	-24.53	523.7	-239.0	575.6	564.1	11.56	49.805	
900.0	900.0	886.5	895.0	4.0	7.1	-24.47	524.2	-238.6	575.9	564.2	11.70	49.230	
1,000.0	1,000.0	988.0	996.4	4.2	7.1	-24.45	525.0	-238.7	576.7	564.9	11.85	48.679	
1,100.0	1,100.0	1,091.3	1,099.8	4.3	7.2	-24.52	525.0	-239.5	577.0	565.0	12.03	47.948	
1,200.0	1,200.0	1,198.4	1,206.9	4.4	7.3	-24.67	523.9	-240.6	576.5	564.3	12.18	47.315	
1,300.0	1,300.0	1,298.9	1,307.4	4.6	7.4	12.35	522.6	-240.4	573.5	561.1	12.44	46.086	
1,400.0	1,399.8	1,394.3	1,402.7	4.8	7.4	12.56	522.0	-239.2	567.4	554.7	12.76	44.458	
1,500.0	1,499.5	1,483.8	1,492.2	5.1	7.5	12.92	523.0	-238.1	559.4	546.3	13.11	42.667	
1,600.0	1,598.7	1,580.7	1,589.1	5.4	7.6	13.34	524.7	-237.9	549.0	535.6	13.46	40.796	
1,700.0	1,697.5	1,679.6	1,688.0	5.8	7.7	13.72	526.1	-239.2	535.7	521.8	13.84	38.716	
1,800.0	1,795.9	1,784.4	1,792.7	6.1	7.8	13.99	526.6	-241.5	520.0	505.8	14.17	36.695	
1,900.0	1,894.4	1,889.1	1,897.5	6.3	7.9	14.26	525.7	-243.4	503.1	488.6	14.51	34.671	
2,000.0	1,992.9	1,990.8	1,999.1	6.6	8.0	14.67	524.4	-243.8	485.3	470.4	14.85	32.669	
2,100.0	2,091.4	2,089.3	2,097.6	7.0	8.1	15.28	523.4	-242.8	467.1	451.9	15.22	30.698	
2,200.0	2,189.9	2,184.3	2,192.6	7.3	8.1	16.10	523.2	-240.5	449.3	433.7	15.60	28.808	
2,300.0	2,288.4	2,277.1	2,285.3	7.7	8.2	16.98	523.9	-238.6	432.6	416.7	15.99	27.060	
2,400.0	2,386.8	2,371.6	2,379.8	8.0	8.3	17.88	525.6	-237.4	417.4	401.0	16.39	25.462	
2,500.0	2,485.3	2,469.4	2,477.7	8.4	8.4	18.68	527.5	-237.7	402.7	385.9	16.81	23.953	
2,600.0	2,583.8	2,570.6	2,578.8	8.8	8.6	19.46	529.0	-238.6	387.9	370.6	17.37	22.327	
2,700.0	2,682.3	2,672.7	2,680.9	9.2	8.9	20.20	529.4	-240.0	372.4	354.4	18.00	20.683	
2,800.0	2,780.8	2,775.2	2,783.3	9.6	9.0	20.93	528.8	-241.6	355.9	337.5	18.47	19.276	
2,900.0	2,879.2	2,877.8	2,885.9	9.9	9.1	21.77	527.0	-242.6	338.4	319.5	18.87	17.936	
3,000.0	2,977.7	2,976.5	2,984.6	10.4	9.1	22.88	525.0	-242.3	320.2	300.9	19.27	16.615	
3,100.0	3,076.2	3,073.9	3,082.0	10.8	9.2	24.41	523.3	-240.5	302.2	282.6	19.67	15.367	
3,200.0	3,174.7	3,170.0	3,178.1	11.2	9.3	26.19	522.3	-238.4	285.0	265.0	20.06	14.211	
3,300.0	3,273.2	3,265.1	3,273.2	11.6	9.5	28.18	522.2	-236.3	269.0	248.5	20.54	13.100	
3,400.0	3,371.6	3,362.1	3,370.1	12.0	9.6	30.47	523.0	-234.3	254.3	233.3	20.95	12.139	
3,500.0	3,470.1	3,458.8	3,466.8	12.4	9.7	32.98	524.3	-232.5	240.6	219.3	21.27	11.312	
3,600.0	3,568.6	3,561.1	3,569.0	12.8	9.9	36.29	524.7	-229.2	226.5	204.9	21.55	10.512	
3,700.0	3,667.1	3,656.4	3,664.3	13.3	10.4	39.49	525.3	-227.2	213.3	191.4	21.94	9.724	
3,800.0	3,765.6	3,753.7	3,761.5	13.7	10.8	42.34	527.1	-227.9	202.0	179.7	22.29	9.062	
3,900.0	3,864.0	3,854.4	3,862.3	14.1	10.9	45.23	528.9	-230.0	190.8	168.4	22.43	8.507	
4,000.0	3,962.5	3,955.8	3,963.6	14.6	10.9	48.62	529.5	-231.9	179.1	156.7	22.48	7.970	
4,100.0	4,061.0	4,056.6	4,064.5	15.0	11.0	52.79	528.2	-233.3	166.5	144.1	22.39	7.435	
4,200.0	4,159.5	4,155.1	4,162.9	15.4	11.0	58.07	525.9	-233.5	154.3	132.1	22.16	6.962	
4,300.0	4,258.0	4,252.1	4,259.8	15.9	11.1	64.64	523.4	-232.1	144.0	122.2	21.77	6.614	
4,400.0	4,356.4	4,349.3	4,357.0	16.3	11.1	72.11	521.4	-230.3	136.7	115.4	21.32	6.411	
4,500.0	4,454.9	4,445.7	4,453.3	16.7	11.2	79.95	520.2	-228.5	132.7	111.7	20.99	6.320	
4,541.7	4,496.0	4,485.6	4,493.3	16.9	11.2	83.13	520.3	-227.7	132.3	111.4	20.91	6.325 CC	
4,600.0	4,553.4	4,543.2	4,550.9	17.1	11.3	87.63	520.7	-226.5	132.6	111.7	20.94	6.334	
4,700.0	4,652.1	4,642.4	4,650.0	17.6	11.5	94.63	521.5	-224.9	134.7	113.5	21.26	6.336	
4,800.0	4,751.1	4,741.7	4,749.3	18.0	11.5	100.43	522.6	-223.9	138.1	116.4	21.72	6.359	
4,900.0	4,850.3	4,841.2	4,848.9	18.4	11.6	105.06	524.0	-223.3	142.1	119.8	22.27	6.378	
5,000.0	4,949.7	4,941.4	4,949.0	18.8	11.7	108.54	526.0	-223.2	145.9	123.1	22.84	6.387	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design:		WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 1H - OWB - AWP											Offset Site Error:		0.0 usft
Survey Program:		239-r.5 MWD, 761-r.5 MWD, 4644-r.5 MWD, 9817-r.5 MWD							Rule Assigned:				Offset Well Error:		2.0 usft
Measured Depth	Reference	Measured Depth	Offset	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Distance		Minimum Separation	Separation Factor	Warning		
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	(usft)				
5,100.0	5,049.2	5,040.5	5,048.0	19.2	11.7	111.11	528.1	-223.2	149.7	126.3	23.37	6.406			
5,200.0	5,149.0	5,139.9	5,147.5	19.6	11.8	113.02	530.1	-222.9	153.4	129.5	23.85	6.431			
5,300.0	5,248.8	5,239.5	5,247.0	19.9	11.9	114.38	531.9	-222.2	156.7	132.5	24.27	6.458			
5,400.0	5,348.7	5,339.5	5,347.0	20.2	12.0	115.21	533.5	-221.4	159.5	134.9	24.62	6.478			
5,500.0	5,448.7	5,440.0	5,447.5	20.5	12.1	115.54	534.8	-220.7	161.4	136.5	24.90	6.482			
5,600.0	5,548.7	5,540.6	5,548.1	20.6	12.2	78.17	536.4	-220.5	162.1	137.1	24.99	6.488			
5,700.0	5,648.7	5,640.1	5,647.6	20.7	12.3	77.70	537.8	-220.4	162.5	137.5	25.06	6.487			
5,800.0	5,748.7	5,739.8	5,747.3	20.7	12.4	77.12	539.6	-219.9	163.4	138.3	25.11	6.507			
5,900.0	5,848.7	5,839.9	5,847.3	20.8	12.5	76.53	541.4	-219.5	164.2	139.0	25.18	6.523			
6,000.0	5,948.7	5,939.9	5,947.4	20.8	12.6	76.03	543.0	-219.0	165.0	139.8	25.26	6.534			
6,100.0	6,048.7	6,040.5	6,047.9	20.9	12.7	75.65	544.2	-218.6	165.7	140.3	25.37	6.533			
6,200.0	6,148.7	6,141.0	6,148.4	20.9	12.8	75.38	545.1	-218.5	166.0	140.6	25.48	6.516			
6,300.0	6,248.7	6,242.2	6,249.6	21.0	12.9	75.22	545.5	-218.8	165.9	140.3	25.60	6.480			
6,400.0	6,348.7	6,341.4	6,348.8	21.0	12.9	75.13	545.6	-219.1	165.6	139.9	25.69	6.444			
6,500.0	6,448.7	6,441.4	6,448.8	21.1	13.0	75.21	545.4	-219.1	165.5	139.7	25.82	6.410			
6,600.0	6,548.7	6,541.8	6,549.2	21.1	13.0	75.27	545.2	-219.2	165.4	139.4	25.94	6.375			
6,700.0	6,648.7	6,642.9	6,650.3	21.2	13.0	75.46	544.5	-219.7	164.7	138.6	26.07	6.316			
6,800.0	6,748.7	6,742.7	6,750.1	21.2	13.0	75.64	543.7	-220.6	163.7	137.5	26.20	6.248			
6,900.0	6,848.7	6,841.9	6,849.3	21.3	13.0	75.71	543.5	-221.0	163.2	136.9	26.30	6.207			
7,000.0	6,948.7	6,942.5	6,949.9	21.3	13.0	75.70	543.3	-221.6	162.6	136.1	26.41	6.154			
7,100.0	7,048.7	7,042.2	7,049.6	21.4	13.0	75.94	542.5	-222.1	161.9	135.4	26.55	6.099			
7,200.0	7,148.7	7,142.2	7,149.6	21.4	13.0	76.13	541.9	-222.5	161.4	134.7	26.69	6.048			
7,300.0	7,248.7	7,241.8	7,249.2	21.5	13.0	76.39	541.0	-222.8	160.9	134.1	26.84	5.996			
7,400.0	7,348.7	7,342.6	7,350.0	21.5	13.1	76.82	539.8	-222.8	160.6	133.5	27.02	5.942			
7,500.0	7,448.7	7,443.3	7,450.7	21.6	13.1	77.37	538.0	-223.6	159.4	132.2	27.22	5.857			
7,600.0	7,548.7	7,543.2	7,550.5	21.6	13.1	78.19	535.5	-224.3	158.2	130.7	27.45	5.763			
7,700.0	7,648.7	7,643.1	7,650.4	21.7	13.1	79.07	532.9	-224.9	157.1	129.4	27.70	5.671			
7,800.0	7,748.7	7,743.3	7,750.5	21.7	13.2	80.06	530.1	-225.6	155.9	128.0	27.97	5.575			
7,900.0	7,848.7	7,842.6	7,849.8	21.8	13.2	81.03	527.3	-226.1	155.0	126.7	28.23	5.490			
8,000.0	7,948.7	7,942.8	7,950.0	21.8	13.2	81.89	524.9	-226.5	154.2	125.7	28.49	5.413			
8,100.0	8,048.7	8,043.2	8,050.3	21.9	13.3	82.77	522.4	-227.2	153.2	124.5	28.75	5.329			
8,200.0	8,148.7	8,142.7	8,149.9	21.9	13.3	83.66	520.0	-227.7	152.4	123.3	29.01	5.252			
8,300.0	8,248.7	8,243.0	8,250.1	22.0	13.4	84.94	516.5	-228.3	151.5	122.1	29.34	5.163			
8,400.0	8,348.7	8,342.9	8,349.8	22.0	13.5	86.42	512.6	-228.8	150.6	120.9	29.70	5.073			
8,500.0	8,448.7	8,442.4	8,449.3	22.1	13.5	87.79	508.9	-229.3	150.0	119.9	30.03	4.994			
8,547.7	8,496.4	8,489.6	8,496.4	22.1	13.6	88.30	507.6	-229.3	149.9	119.7	30.17	4.968			
8,600.0	8,548.7	8,541.5	8,548.4	22.1	13.6	88.79	506.3	-229.2	150.0	119.6	30.30	4.948			
8,700.0	8,648.7	8,641.9	8,648.7	22.2	13.7	89.97	503.2	-229.0	150.2	119.5	30.62	4.904			
8,776.8	8,725.5	8,718.7	8,725.5	22.2	13.7	90.86	500.9	-229.1	150.0	119.2	30.86	4.862			
8,800.0	8,748.7	8,741.4	8,748.2	22.2	13.7	91.16	500.1	-229.1	150.1	119.1	30.93	4.852			
8,900.0	8,848.7	8,842.8	8,849.5	22.3	13.8	92.66	496.2	-228.8	150.5	119.2	31.31	4.808			
9,000.0	8,948.7	8,942.7	8,949.3	22.3	13.9	94.10	492.5	-230.1	149.5	117.8	31.67	4.719			
9,020.4	8,969.1	8,962.5	8,969.1	22.3	13.9	94.37	491.8	-230.2	149.4	117.7	31.73	4.708			
9,100.0	9,048.7	9,041.7	9,048.2	22.4	14.0	95.45	488.9	-230.2	149.6	117.6	32.00	4.677			
9,200.0	9,148.7	9,142.7	9,149.2	22.4	14.1	96.95	485.0	-230.5	149.8	117.4	32.37	4.626			
9,300.0	9,248.7	9,244.5	9,250.9	22.5	14.2	98.10	482.2	-231.8	148.9	116.2	32.71	4.552			
9,400.0	9,348.7	9,343.3	9,349.7	22.5	14.3	98.67	480.9	-233.3	147.6	114.6	32.95	4.479			
9,500.0	9,448.7	9,445.9	9,452.2	22.6	14.4	100.03	477.7	-235.2	146.2	112.9	33.33	4.386			
9,600.0	9,548.7	9,545.3	9,551.6	22.6	14.5	101.23	475.1	-238.0	143.9	110.3	33.64	4.278			
9,657.1	9,605.8	9,599.6	9,605.8	22.7	14.6	101.87	473.7	-238.9	143.3	109.6	33.77	4.244			
9,700.0	9,648.7	9,641.1	9,647.3	22.7	14.6	102.35	472.4	-238.8	143.6	109.8	33.88	4.240			
9,800.0	9,748.7	9,745.9	9,752.1	22.8	14.8	103.16	470.7	-240.5	142.4	108.2	34.20	4.164			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 239-r.5 MWD, 761-r.5 MWD, 4644-r.5 MWD, 9817-r.5 MWD												Offset Well Error:	2.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Minimum Separation (usft)	Separation Factor
9,900.0	9,848.7	9,842.8	9,848.9	22.8	14.9	104.78	467.2	-242.7	141.1	106.6		34.50	4.090
9,904.4	9,853.1	9,847.0	9,853.1	22.8	14.9	104.92	466.8	-242.8	141.1	106.6		34.52	4.088 ES
10,000.0	9,948.7	9,935.1	9,940.1	22.9	14.9	110.07	454.0	-244.6	143.5	108.3		35.22	4.075 SF
10,100.0	10,048.7	10,025.5	10,028.0	22.9	15.0	117.60	432.8	-244.5	153.3	117.2		36.12	4.244
10,200.0	10,148.7	10,111.9	10,109.1	23.0	15.0	126.77	403.2	-245.4	171.6	134.7		36.95	4.645
10,300.0	10,248.7	10,188.8	10,178.0	23.0	15.1	135.48	369.2	-247.4	200.8	163.3		37.43	5.364
10,400.0	10,348.7	10,249.4	10,229.0	23.1	15.2	142.05	336.5	-249.2	242.8	205.2		37.68	6.445
10,500.0	10,448.7	10,295.0	10,263.6	23.1	15.3	146.82	306.9	-250.8	298.7	260.7		38.00	7.861
10,600.0	10,548.7	10,330.3	10,287.4	23.2	15.4	150.32	280.9	-252.5	365.7	327.3		38.46	9.510
10,700.0	10,648.7	10,359.5	10,305.0	23.3	15.4	152.92	257.7	-253.6	440.7	401.7		38.97	11.307
10,800.0	10,748.7	10,381.0	10,316.9	23.3	15.5	154.59	239.7	-254.0	521.1	481.6		39.52	13.184
10,900.0	10,848.7	10,413.0	10,332.8	23.4	15.6	156.74	212.0	-254.0	605.5	565.5		39.99	15.140
11,000.0	10,948.7	10,423.9	10,337.7	23.4	15.6	157.39	202.3	-253.8	692.5	652.0		40.56	17.076
11,100.0	11,048.7	10,438.0	10,343.8	23.5	15.7	158.18	189.6	-253.6	781.7	740.6		41.07	19.032
11,200.0	11,148.7	10,469.0	10,356.2	23.5	15.8	159.73	161.2	-252.9	872.3	830.8		41.49	21.025
11,300.0	11,248.7	10,477.9	10,359.5	23.6	15.8	160.14	152.9	-252.6	964.0	922.0		42.00	22.953

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 5H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_GC+WIR+DPIPE, 8399-r.5 MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis	Rule Assigned:										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	8.5	3.0	0.0	-16.00	499.0	-143.1	519.2				
100.0	100.0	93.2	101.7	3.0	0.1	-16.05	498.7	-143.5	519.0	514.2	4.73	109.798	
200.0	200.0	192.8	201.3	3.2	0.3	-16.17	498.1	-144.4	518.7	513.7	4.92	105.472	
300.0	300.0	292.6	301.1	3.3	0.5	-16.30	497.6	-145.5	518.4	513.3	5.12	101.174	
400.0	400.0	392.9	401.3	3.4	0.7	-16.43	497.0	-146.6	518.2	512.9	5.34	96.963	
500.0	500.0	494.0	502.4	3.5	0.9	-16.59	496.3	-147.8	517.8	512.3	5.58	92.856	
600.0	600.0	594.2	602.7	3.7	1.2	-16.76	495.4	-149.2	517.3	511.5	5.82	88.904	
700.0	700.0	694.1	702.5	3.8	1.4	-16.93	494.4	-150.5	516.8	510.8	6.07	85.149	
800.0	800.0	791.9	800.4	3.9	1.6	-17.11	493.7	-152.0	516.5	510.2	6.33	81.658	
900.0	900.0	891.9	900.3	4.0	1.8	-17.31	493.1	-153.7	516.5	509.9	6.59	78.374	
1,000.0	1,000.0	991.8	1,000.2	4.2	2.0	-17.51	492.5	-155.4	516.5	509.6	6.86	75.282	
1,100.0	1,100.0	1,092.8	1,101.2	4.3	2.2	-17.69	491.9	-156.9	516.3	509.2	7.14	72.346	
1,200.0	1,200.0	1,193.0	1,201.4	4.4	2.4	-17.85	491.2	-158.2	516.1	508.7	7.42	69.579	
1,300.0	1,300.0	1,293.0	1,301.4	4.6	2.7	19.07	490.5	-159.5	514.2	506.3	7.80	65.901	
1,400.0	1,399.8	1,391.9	1,400.2	4.8	2.9	19.14	489.9	-160.7	509.0	500.8	8.27	61.523	
1,500.0	1,499.5	1,490.8	1,499.1	5.1	3.1	19.38	489.6	-161.8	500.8	492.0	8.76	57.164	
1,600.0	1,598.7	1,589.1	1,597.4	5.4	3.3	19.80	489.4	-162.9	489.5	480.2	9.26	52.834	
1,700.0	1,697.5	1,685.6	1,693.9	5.8	3.5	20.44	489.6	-163.7	475.2	465.4	9.78	48.578	
1,800.0	1,795.9	1,783.7	1,792.1	6.1	3.7	21.15	490.3	-164.2	459.8	449.5	10.23	44.933	
1,900.0	1,894.4	1,881.7	1,890.0	6.3	3.9	21.95	491.2	-164.5	444.5	433.8	10.70	41.544	
2,000.0	1,992.9	1,980.2	1,988.5	6.6	4.1	22.82	492.2	-164.7	429.4	418.2	11.18	38.399	
2,100.0	2,091.4	2,078.8	2,087.1	7.0	4.3	23.77	493.2	-164.8	414.5	402.8	11.68	35.487	
2,200.0	2,189.9	2,177.7	2,186.0	7.3	4.5	24.83	494.2	-164.7	399.6	387.4	12.18	32.799	
2,300.0	2,288.4	2,278.0	2,286.4	7.7	4.7	25.97	495.1	-164.6	384.6	371.9	12.69	30.306	
2,400.0	2,386.8	2,378.7	2,387.0	8.0	4.9	27.17	495.3	-164.7	369.3	356.1	13.20	27.975	
2,500.0	2,485.3	2,480.5	2,488.8	8.4	5.1	28.44	494.8	-164.9	353.4	339.7	13.71	25.785	
2,600.0	2,583.8	2,580.0	2,588.3	8.8	5.3	29.74	493.5	-165.4	336.9	322.7	14.21	23.717	
2,700.0	2,682.3	2,679.8	2,688.1	9.2	5.6	31.18	491.8	-165.9	320.4	305.7	14.70	21.796	
2,800.0	2,780.8	2,779.1	2,787.3	9.6	5.8	32.83	489.8	-165.9	303.6	288.4	15.17	20.007	
2,900.0	2,879.2	2,878.3	2,886.5	9.9	6.0	34.89	487.5	-165.0	286.8	271.1	15.62	18.359	
3,000.0	2,977.7	2,975.6	2,983.8	10.4	6.2	37.42	485.2	-162.7	270.2	254.2	16.02	16.862	
3,100.0	3,076.2	3,069.3	3,077.4	10.8	6.4	40.40	483.7	-159.4	255.1	238.7	16.38	15.571	
3,200.0	3,174.7	3,164.2	3,172.2	11.2	6.5	43.86	483.7	-155.5	242.5	225.8	16.67	14.550	
3,300.0	3,273.2	3,260.7	3,268.6	11.6	6.7	47.71	484.6	-151.5	231.8	214.9	16.88	13.736	
3,400.0	3,371.6	3,358.3	3,366.2	12.0	6.9	51.79	486.1	-147.9	222.8	205.8	17.02	13.088	
3,500.0	3,470.1	3,456.6	3,464.3	12.4	7.1	56.10	487.8	-144.6	215.1	198.0	17.10	12.574	
3,600.0	3,568.6	3,556.0	3,563.8	12.8	7.3	60.38	489.8	-142.6	208.4	191.3	17.16	12.148	
3,700.0	3,667.1	3,656.1	3,663.8	13.3	7.5	64.88	491.3	-141.2	202.3	185.2	17.17	11.784	
3,800.0	3,765.6	3,755.1	3,762.8	13.7	7.7	69.63	492.1	-139.9	197.0	179.8	17.16	11.479	
3,900.0	3,864.0	3,853.5	3,861.2	14.1	8.0	74.59	493.0	-138.6	193.0	175.9	17.15	11.254	
4,000.0	3,962.5	3,951.9	3,959.5	14.6	8.2	79.81	493.6	-137.0	190.6	173.5	17.18	11.094	
4,083.4	4,044.7	4,033.8	4,041.4	14.9	8.3	84.36	493.8	-135.3	190.0	172.7	17.28	10.998 CC	
4,100.0	4,061.0	4,050.0	4,057.7	15.0	8.4	85.28	493.8	-135.0	190.0	172.7	17.30	10.981 ES	
4,200.0	4,159.5	4,148.2	4,155.9	15.4	8.6	90.85	493.7	-132.6	191.3	173.7	17.57	10.888	
4,300.0	4,258.0	4,247.0	4,254.6	15.9	8.8	96.44	493.3	-130.1	194.3	176.3	18.02	10.786	
4,400.0	4,356.4	4,345.6	4,353.2	16.3	9.0	101.93	492.3	-127.8	198.8	180.1	18.65	10.656	
4,500.0	4,454.9	4,443.6	4,451.2	16.7	9.2	107.12	491.3	-125.6	205.0	185.5	19.45	10.537	
4,600.0	4,553.4	4,541.7	4,549.2	17.1	9.4	112.00	490.3	-123.3	212.8	192.4	20.35	10.457	
4,700.0	4,652.1	4,640.0	4,647.5	17.6	9.6	116.30	489.2	-121.0	221.5	200.1	21.32	10.388	
4,800.0	4,751.1	4,738.6	4,746.1	18.0	9.8	119.90	488.2	-118.8	230.4	208.2	22.27	10.349	
4,900.0	4,850.3	4,837.6	4,845.0	18.4	10.0	122.90	487.2	-116.5	239.3	216.1	23.17	10.326	
5,000.0	4,949.7	4,936.7	4,944.1	18.8	10.2	125.35	486.1	-114.2	247.6	223.6	24.01	10.312	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 5H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program: 100-GYD_GC+WIR+DPIPE, 8399-r.5 MWD													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,100.0	5,049.2	5,038.5	5,045.8	19.2	10.4	127.31	485.3	-112.0	255.2	230.4	24.82	10.285		
5,200.0	5,149.0	5,144.1	5,151.4	19.6	10.6	128.44	486.6	-112.0	259.8	234.3	25.51	10.185		
5,300.0	5,248.8	5,246.1	5,253.4	19.9	10.9	128.90	489.2	-113.5	261.9	235.8	26.04	10.057		
5,400.0	5,348.7	5,346.3	5,353.6	20.2	11.1	128.99	491.9	-115.2	262.5	236.1	26.47	9.918		
5,500.0	5,448.7	5,446.3	5,453.5	20.5	11.3	128.79	494.6	-116.9	262.1	235.3	26.82	9.774		
5,600.0	5,548.7	5,546.5	5,553.7	20.6	11.5	91.27	497.4	-118.7	260.6	233.6	26.99	9.655		
5,700.0	5,648.7	5,646.4	5,653.5	20.7	11.7	90.67	500.1	-120.6	258.6	231.5	27.12	9.537		
5,800.0	5,748.7	5,746.0	5,753.0	20.7	11.9	90.07	502.8	-122.3	256.9	229.6	27.24	9.429		
5,900.0	5,848.7	5,845.5	5,852.5	20.8	12.1	89.47	505.5	-123.9	255.3	227.9	27.37	9.326		
6,000.0	5,948.7	5,945.0	5,952.0	20.8	12.3	88.87	508.2	-125.3	253.9	226.4	27.51	9.231		
6,100.0	6,048.7	6,044.1	6,051.0	20.9	12.5	88.36	510.4	-126.5	252.7	225.1	27.66	9.138		
6,200.0	6,148.7	6,142.9	6,149.8	20.9	12.7	88.27	510.8	-127.2	252.1	224.2	27.89	9.041		
6,300.0	6,248.7	6,242.8	6,249.7	21.0	12.9	88.28	510.7	-127.6	251.7	223.6	28.15	8.943		
6,400.0	6,348.7	6,343.0	6,349.9	21.0	13.2	88.30	510.6	-128.0	251.3	222.8	28.41	8.844		
6,500.0	6,448.7	6,443.2	6,450.1	21.1	13.4	88.34	510.4	-128.5	250.7	222.0	28.68	8.742		
6,600.0	6,548.7	6,543.2	6,550.0	21.1	13.6	88.41	510.1	-129.1	250.2	221.2	28.96	8.640		
6,700.0	6,648.7	6,643.2	6,650.1	21.2	13.8	88.51	509.6	-129.6	249.6	220.4	29.24	8.539		
6,800.0	6,748.7	6,743.2	6,750.1	21.2	14.0	88.61	509.2	-130.2	249.1	219.5	29.52	8.438		
6,900.0	6,848.7	6,843.1	6,850.0	21.3	14.2	88.85	508.2	-130.7	248.5	218.7	29.82	8.335		
7,000.0	6,948.7	6,944.7	6,951.5	21.3	14.4	89.21	506.6	-131.3	247.9	217.7	30.16	8.218		
7,100.0	7,048.7	7,046.7	7,053.4	21.4	14.6	90.06	502.9	-133.0	246.2	215.6	30.59	8.048		
7,200.0	7,148.7	7,146.8	7,153.5	21.4	14.8	91.02	498.8	-135.0	244.2	213.2	31.02	7.873		
7,300.0	7,248.7	7,246.8	7,253.4	21.5	15.1	91.93	495.0	-137.0	242.3	210.9	31.44	7.708		
7,400.0	7,348.7	7,346.9	7,353.4	21.5	15.3	92.87	491.1	-139.2	240.3	208.5	31.86	7.543		
7,500.0	7,448.7	7,446.4	7,452.8	21.6	15.5	93.80	487.4	-141.3	238.4	206.2	32.27	7.389		
7,600.0	7,548.7	7,545.8	7,552.1	21.6	15.7	94.91	482.9	-143.2	236.9	204.2	32.71	7.241		
7,700.0	7,648.7	7,645.6	7,651.7	21.7	15.9	96.11	478.1	-145.0	235.6	202.4	33.17	7.102		
7,800.0	7,748.7	7,745.5	7,751.5	21.7	16.1	97.29	473.4	-146.8	234.3	200.7	33.62	6.969		
7,900.0	7,848.7	7,845.1	7,851.0	21.8	16.3	98.41	469.1	-148.5	233.2	199.1	34.05	6.847		
8,000.0	7,948.7	7,944.7	7,950.5	21.8	16.5	99.49	464.9	-150.0	232.3	197.8	34.48	6.738		
8,100.0	8,048.7	8,044.4	8,050.2	21.9	16.7	100.54	460.8	-151.5	231.6	196.7	34.90	6.635		
8,200.0	8,148.7	8,143.9	8,149.5	21.9	16.9	101.72	456.2	-152.9	231.1	195.8	35.34	6.540		
8,300.0	8,248.7	8,243.5	8,249.0	22.0	17.2	102.96	451.4	-154.1	230.9	195.1	35.78	6.454		
8,388.2	8,336.9	8,331.5	8,336.9	22.0	17.3	104.06	447.1	-155.3	230.8	194.7	36.17	6.382		
8,400.0	8,348.7	8,343.2	8,348.6	22.0	17.4	104.22	446.5	-155.4	230.8	194.6	36.22	6.374		
8,500.0	8,448.7	8,442.4	8,447.6	22.1	17.5	105.50	441.4	-156.4	231.1	194.6	36.53	6.327		
8,600.0	8,548.7	8,541.8	8,546.9	22.1	17.5	106.59	437.0	-157.1	231.7	194.9	36.78	6.301		
8,700.0	8,648.7	8,641.5	8,646.5	22.2	17.5	107.59	432.9	-157.4	232.6	195.6	37.00	6.288		
8,800.0	8,748.7	8,741.4	8,746.2	22.2	17.7	109.20	426.4	-158.7	233.4	196.1	37.32	6.255		
8,900.0	8,848.7	8,834.4	8,837.5	22.3	18.5	113.28	409.9	-162.4	236.2	198.4	37.88	6.236 SF		
9,000.0	8,948.7	8,925.9	8,923.9	22.3	19.0	120.34	381.0	-170.4	243.1	204.4	38.70	6.282		
9,100.0	9,048.7	9,002.6	8,992.7	22.4	19.4	127.80	348.3	-179.4	258.9	219.7	39.15	6.612		
9,200.0	9,148.7	9,071.6	9,050.8	22.4	19.7	135.05	312.4	-188.7	286.7	247.5	39.27	7.301		
9,300.0	9,248.7	9,131.5	9,097.5	22.5	19.9	141.48	276.3	-198.6	327.0	288.0	39.04	8.377		
9,400.0	9,348.7	9,180.1	9,131.7	22.5	20.0	146.75	243.2	-208.7	379.1	340.6	38.51	9.843		
9,500.0	9,448.7	9,221.2	9,158.3	22.6	20.0	150.99	213.5	-218.5	440.5	402.5	38.01	11.590		
9,600.0	9,548.7	9,251.1	9,176.0	22.6	20.1	153.82	190.4	-225.4	510.3	472.7	37.57	13.580		
9,700.0	9,648.7	9,277.2	9,190.6	22.7	20.1	156.01	169.4	-230.6	586.0	548.7	37.32	15.701		
9,800.0	9,748.7	9,297.0	9,200.9	22.8	20.1	157.48	152.9	-234.0	666.2	629.0	37.19	17.916		
9,900.0	9,848.7	9,328.0	9,215.8	22.8	20.2	159.60	126.2	-238.9	749.9	712.6	37.28	20.118		
10,000.0	9,948.7	9,328.0	9,215.8	22.9	20.2	159.60	126.2	-238.9	836.0	798.8	37.23	22.454		
10,100.0	10,048.7	9,347.9	9,224.3	22.9	20.2	160.86	108.5	-242.2	924.2	886.8	37.41	24.703		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 6H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8667-r.5 MWD+IFR1+MS								Rule Assigned:					Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	0.0	8.2	3.0	3.0	-12.77	499.2	-113.1	511.9					
100.0	100.0	88.0	96.2	3.0	3.0	-12.77	499.5	-113.2	512.2	505.8	6.44	79.517		
200.0	200.0	187.9	196.0	3.2	3.0	-12.79	500.2	-113.5	513.0	506.4	6.57	78.057		
300.0	300.0	287.7	295.9	3.3	3.0	-12.81	501.0	-113.9	513.8	507.0	6.71	76.584		
400.0	400.0	388.2	396.4	3.4	3.0	-12.84	501.7	-114.3	514.6	507.7	6.85	75.111		
500.0	500.0	495.6	503.7	3.5	3.0	-12.94	501.6	-115.2	514.6	507.6	6.99	73.633		
600.0	600.0	596.2	604.4	3.7	3.1	-13.10	500.4	-116.4	513.8	506.7	7.12	72.157		
700.0	700.0	694.7	702.9	3.8	3.1	-13.13	499.7	-116.5	513.1	505.9	7.25	70.743		
800.0	800.0	794.8	802.9	3.9	3.1	-13.01	499.4	-115.4	512.6	505.2	7.39	69.353		
900.0	900.0	895.7	903.8	4.0	3.1	-12.85	499.1	-113.8	511.9	504.4	7.53	67.964		
1,000.0	1,000.0	996.9	1,005.0	4.2	3.1	-12.66	498.6	-112.0	511.0	503.4	7.68	66.579		
1,100.0	1,100.0	1,096.2	1,104.3	4.3	3.1	-12.46	498.1	-110.1	510.1	502.3	7.82	65.221		
1,200.0	1,200.0	1,197.3	1,205.3	4.4	3.1	-12.24	497.5	-107.9	509.1	501.1	7.97	63.873		
1,300.0	1,300.0	1,296.9	1,305.0	4.6	3.1	25.11	496.8	-105.6	506.3	498.1	8.21	61.709		
1,400.0	1,399.8	1,395.8	1,403.8	4.8	3.2	25.68	496.5	-103.1	500.8	492.3	8.52	58.746		
1,500.0	1,499.5	1,494.9	1,502.9	5.1	3.2	26.46	496.2	-100.7	492.2	483.4	8.86	55.562		
1,600.0	1,598.7	1,587.0	1,595.0	5.4	3.2	27.36	496.3	-99.0	481.1	471.9	9.21	52.246		
1,700.0	1,697.5	1,683.2	1,691.2	5.8	3.3	28.43	497.6	-98.4	468.5	458.9	9.57	48.929		
1,800.0	1,795.9	1,781.4	1,789.4	6.1	3.3	29.58	499.1	-97.7	454.6	444.8	9.88	46.024		
1,900.0	1,894.4	1,880.2	1,888.2	6.3	3.4	30.82	500.6	-96.9	441.0	430.8	10.20	43.241		
2,000.0	1,992.9	1,979.1	1,987.1	6.6	3.4	32.17	502.1	-95.9	427.5	417.0	10.53	40.596		
2,100.0	2,091.4	2,076.7	2,084.6	7.0	3.5	33.57	503.7	-95.0	414.4	403.6	10.88	38.110		
2,200.0	2,189.9	2,176.0	2,183.9	7.3	3.5	35.11	505.3	-94.0	401.6	390.3	11.22	35.784		
2,300.0	2,288.4	2,280.3	2,288.2	7.7	3.6	36.83	506.4	-92.9	388.5	376.9	11.56	33.603		
2,400.0	2,386.8	2,386.2	2,394.1	8.0	3.6	38.53	505.2	-93.0	373.5	361.6	11.87	31.455		
2,500.0	2,485.3	2,484.5	2,492.4	8.4	3.6	40.15	503.2	-93.6	358.0	345.8	12.19	29.357		
2,600.0	2,583.8	2,583.8	2,591.6	8.8	3.6	41.91	501.2	-94.4	342.7	330.2	12.50	27.420		
2,700.0	2,682.3	2,683.8	2,691.6	9.2	3.6	43.82	498.8	-95.4	327.4	314.7	12.78	25.617		
2,800.0	2,780.8	2,785.9	2,793.6	9.6	3.7	46.01	495.2	-96.4	311.4	298.4	13.03	23.901		
2,900.0	2,879.2	2,884.0	2,891.7	9.9	3.7	48.39	491.3	-97.1	295.4	282.2	13.25	22.290		
3,000.0	2,977.7	2,981.7	2,989.2	10.4	3.7	51.03	487.2	-97.8	279.9	266.5	13.44	20.828		
3,100.0	3,076.2	3,079.2	3,086.7	10.8	3.8	54.04	483.2	-98.1	265.1	251.6	13.57	19.542		
3,200.0	3,174.7	3,175.9	3,183.3	11.2	3.8	57.38	479.5	-98.3	251.5	237.9	13.64	18.438		
3,300.0	3,273.2	3,272.8	3,280.1	11.6	3.9	61.08	476.1	-98.2	239.3	225.7	13.65	17.532		
3,400.0	3,371.6	3,370.9	3,378.2	12.0	3.9	65.21	472.9	-98.0	228.5	214.9	13.59	16.808		
3,500.0	3,470.1	3,468.4	3,475.7	12.4	4.0	69.65	469.8	-97.9	219.0	205.5	13.50	16.227		
3,600.0	3,568.6	3,566.3	3,573.5	12.8	4.0	74.47	466.8	-97.7	211.1	197.8	13.37	15.789		
3,700.0	3,667.1	3,664.8	3,671.9	13.3	4.1	79.63	463.7	-97.6	204.8	191.5	13.27	15.437		
3,800.0	3,765.6	3,762.4	3,769.5	13.7	4.2	85.11	460.4	-97.3	200.2	187.0	13.24	15.122		
3,900.0	3,864.0	3,860.3	3,867.3	14.1	4.2	90.89	456.8	-96.6	197.8	184.4	13.36	14.803		
3,953.9	3,917.1	3,912.6	3,919.5	14.4	4.3	94.05	454.9	-96.2	197.4	183.9	13.51	14.610 CC, ES		
4,000.0	3,962.5	3,957.6	3,964.5	14.6	4.3	96.78	453.2	-95.7	197.7	184.0	13.70	14.431		
4,100.0	4,061.0	4,054.7	4,061.6	15.0	4.4	102.66	449.5	-94.5	200.1	185.8	14.27	14.016		
4,200.0	4,159.5	4,152.4	4,159.2	15.4	4.5	108.38	445.9	-93.0	204.8	189.7	15.08	13.586		
4,300.0	4,258.0	4,249.7	4,256.4	15.9	4.6	113.90	441.9	-91.5	211.6	195.6	16.06	13.176		
4,400.0	4,356.4	4,346.7	4,353.2	16.3	4.6	118.99	438.0	-89.7	220.6	203.4	17.15	12.862		
4,500.0	4,454.9	4,444.0	4,450.5	16.7	4.7	123.45	435.1	-87.7	231.5	213.2	18.25	12.684		
4,600.0	4,553.4	4,541.8	4,548.2	17.1	4.8	127.44	432.6	-85.6	243.8	224.4	19.32	12.619		
4,700.0	4,652.1	4,639.9	4,646.3	17.6	4.9	130.84	430.4	-83.5	256.2	235.8	20.35	12.591		
4,800.0	4,751.1	4,737.6	4,743.9	18.0	5.0	133.61	428.4	-81.4	268.3	247.0	21.27	12.611		
4,900.0	4,850.3	4,836.3	4,842.6	18.4	5.1	135.91	426.4	-79.0	279.9	257.7	22.13	12.647		
5,000.0	4,949.7	4,935.6	4,941.8	18.8	5.2	137.81	424.3	-76.6	290.6	267.7	22.92	12.678		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 6H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8667-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,100.0	5,049.2	5,034.5	5,040.7	19.2	5.3	139.34	422.2	-74.2	300.3	276.7	23.63	12.707		
5,200.0	5,149.0	5,134.1	5,140.3	19.6	5.4	140.56	420.3	-71.8	308.8	284.5	24.29	12.715		
5,300.0	5,248.8	5,233.8	5,239.9	19.9	5.5	141.51	418.3	-69.4	316.1	291.2	24.87	12.707		
5,400.0	5,348.7	5,333.3	5,339.4	20.2	5.6	142.35	415.6	-67.1	322.1	296.7	25.41	12.673		
5,500.0	5,448.7	5,433.9	5,439.9	20.5	5.7	143.01	412.6	-65.0	326.6	300.7	25.89	12.614		
5,600.0	5,548.7	5,534.2	5,540.2	20.6	5.8	106.47	409.7	-63.2	329.6	303.5	26.15	12.604		
5,700.0	5,648.7	5,634.0	5,639.9	20.7	5.9	106.86	406.8	-61.2	332.3	306.0	26.34	12.615		
5,800.0	5,748.7	5,734.1	5,740.0	20.7	6.0	107.24	404.0	-59.4	334.9	308.3	26.53	12.624		
5,900.0	5,848.7	5,833.7	5,839.5	20.8	6.1	107.62	401.0	-57.7	337.5	310.7	26.71	12.635		
6,000.0	5,948.7	5,934.7	5,940.4	20.8	6.2	108.01	398.0	-55.8	340.1	313.2	26.91	12.640		
6,100.0	6,048.7	6,034.3	6,040.0	20.9	6.3	108.41	395.0	-54.2	342.6	315.5	27.09	12.647		
6,200.0	6,148.7	6,136.2	6,141.8	20.9	6.5	108.85	391.7	-52.9	344.8	317.5	27.30	12.629		
6,300.0	6,248.7	6,236.8	6,242.3	21.0	6.6	109.35	388.3	-52.0	346.8	319.3	27.51	12.606		
6,400.0	6,348.7	6,336.4	6,341.9	21.0	6.7	109.86	384.7	-51.3	348.7	321.0	27.71	12.583		
6,500.0	6,448.7	6,436.5	6,441.9	21.1	6.8	110.42	380.8	-50.6	350.6	322.7	27.92	12.557		
6,600.0	6,548.7	6,536.5	6,541.8	21.1	6.9	111.02	376.8	-50.1	352.5	324.4	28.14	12.528		
6,700.0	6,648.7	6,636.6	6,641.8	21.2	7.0	111.63	372.5	-49.8	354.4	326.1	28.36	12.500		
6,800.0	6,748.7	6,738.4	6,743.5	21.2	7.1	112.19	368.7	-49.4	356.1	327.5	28.58	12.461		
6,900.0	6,848.7	6,838.6	6,843.7	21.3	7.2	112.67	365.4	-49.4	357.5	328.7	28.77	12.425		
7,000.0	6,948.7	6,937.2	6,942.2	21.3	7.3	113.15	362.1	-49.2	358.9	330.0	28.95	12.399 SF		
7,100.0	7,048.7	7,031.9	7,036.9	21.4	7.4	113.49	359.0	-47.5	361.8	332.7	29.07	12.446		
7,200.0	7,148.7	7,133.5	7,138.4	21.4	7.5	113.84	355.7	-45.6	364.9	335.6	29.26	12.469		
7,300.0	7,248.7	7,234.3	7,239.2	21.5	7.6	114.24	352.3	-44.1	367.6	338.2	29.45	12.481		
7,400.0	7,348.7	7,333.9	7,338.7	21.5	7.8	114.61	349.0	-42.7	370.3	340.6	29.63	12.496		
7,500.0	7,448.7	7,434.1	7,438.8	21.6	7.9	115.01	345.6	-41.3	372.9	343.1	29.81	12.508		
7,600.0	7,548.7	7,534.4	7,539.0	21.6	8.0	115.36	342.3	-39.9	375.6	345.6	29.99	12.522		
7,700.0	7,648.7	7,633.2	7,637.8	21.7	8.1	115.67	339.4	-38.3	378.3	348.2	30.15	12.546		
7,800.0	7,748.7	7,732.5	7,737.0	21.7	8.2	115.96	336.3	-36.5	381.3	351.0	30.32	12.578		
7,900.0	7,848.7	7,832.4	7,836.9	21.8	8.3	116.23	333.4	-34.5	384.4	353.9	30.48	12.611		
8,000.0	7,948.7	7,932.0	7,936.4	21.8	8.5	116.44	330.7	-32.4	387.5	356.9	30.64	12.647		
8,100.0	8,048.7	8,031.6	8,035.9	21.9	8.6	116.66	327.9	-30.1	390.7	360.0	30.80	12.687		
8,200.0	8,148.7	8,131.4	8,135.6	21.9	8.7	116.85	325.3	-27.9	394.0	363.0	30.95	12.727		
8,300.0	8,248.7	8,230.0	8,234.2	22.0	8.8	117.06	322.4	-25.4	397.5	366.4	31.11	12.780		
8,400.0	8,348.7	8,330.1	8,334.2	22.0	8.9	117.30	319.3	-22.8	401.3	370.0	31.27	12.831		
8,500.0	8,448.7	8,431.6	8,435.6	22.1	9.1	117.56	316.0	-20.6	404.7	373.2	31.46	12.865		
8,600.0	8,548.7	8,532.4	8,536.3	22.1	9.2	117.85	312.8	-18.7	407.8	376.2	31.63	12.891		
8,700.0	8,648.7	8,635.6	8,639.4	22.2	9.3	118.16	309.5	-17.4	410.4	378.6	31.83	12.894		
8,800.0	8,748.7	8,717.0	8,720.7	22.2	9.3	118.62	305.3	-16.5	414.1	382.3	31.86	13.000		
8,900.0	8,848.7	8,780.4	8,783.4	22.3	9.4	119.52	296.3	-13.9	424.8	393.0	31.82	13.352		
9,000.0	8,948.7	8,835.5	8,836.7	22.3	9.5	120.74	283.0	-8.9	445.1	413.3	31.80	13.998		
9,100.0	9,048.7	8,886.0	8,883.6	22.4	9.6	122.21	265.7	-2.1	475.2	443.4	31.82	14.936		
9,200.0	9,148.7	8,935.0	8,927.1	22.4	9.7	123.87	244.7	5.9	514.0	482.0	31.94	16.092		
9,300.0	9,248.7	8,980.0	8,965.2	22.5	9.9	125.53	222.2	14.3	560.5	528.4	32.10	17.459		
9,400.0	9,348.7	9,029.0	9,004.1	22.5	10.0	127.40	194.4	24.7	614.2	581.8	32.36	18.977		
9,500.0	9,448.7	9,058.8	9,026.4	22.6	10.1	128.54	175.9	31.7	674.0	641.4	32.55	20.708		
9,600.0	9,548.7	9,090.5	9,049.0	22.6	10.1	129.68	155.4	40.0	739.2	706.4	32.80	22.535		
9,700.0	9,648.7	9,123.0	9,071.2	22.7	10.2	130.68	133.9	50.4	808.9	775.8	33.09	24.443		
9,800.0	9,748.7	9,143.4	9,084.4	22.8	10.3	131.24	120.2	57.7	882.5	849.1	33.40	26.424		
9,900.0	9,848.7	9,169.0	9,100.2	22.8	10.3	131.88	102.7	67.6	959.3	925.5	33.74	28.432		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 704H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1200-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.5	3.0	3.0	89.55	0.7	89.9	89.9					
100.0	100.0	99.5	100.0	3.0	3.0	89.55	0.7	89.9	89.9	83.4	6.48	13.869		
200.0	200.0	199.5	200.0	3.2	3.2	89.55	0.7	89.9	89.9	83.2	6.72	13.374		
300.0	300.0	299.5	300.0	3.3	3.3	89.55	0.7	89.9	89.9	82.9	6.95	12.929		
400.0	400.0	399.5	400.0	3.4	3.4	89.55	0.7	89.9	89.9	82.7	7.18	12.526		
500.0	500.0	499.5	500.0	3.5	3.5	89.55	0.7	89.9	89.9	82.5	7.39	12.160		
600.0	600.0	599.5	600.0	3.7	3.7	89.55	0.7	89.9	89.9	82.3	7.60	11.825		
700.0	700.0	699.5	700.0	3.8	3.8	89.55	0.7	89.9	89.9	82.1	7.81	11.516		
800.0	800.0	799.5	800.0	3.9	3.9	89.55	0.7	89.9	89.9	81.9	8.00	11.231		
900.0	900.0	899.5	900.0	4.0	4.0	89.55	0.7	89.9	89.9	81.7	8.20	10.967		
1,000.0	1,000.0	999.5	1,000.0	4.2	4.2	89.55	0.7	89.9	89.9	81.5	8.39	10.720		
1,100.0	1,100.0	1,099.5	1,100.0	4.3	4.3	89.55	0.7	89.9	89.9	81.3	8.57	10.490		
1,200.0	1,200.0	1,199.5	1,200.0	4.4	4.5	89.55	0.7	89.9	89.9	81.1	8.84	10.165 CC, ES		
1,300.0	1,300.0	1,296.6	1,297.1	4.6	4.6	126.99	1.3	91.4	92.5	83.3	9.23	10.027 SF		
1,400.0	1,399.8	1,393.3	1,393.6	4.8	4.9	128.13	3.1	95.9	100.4	90.7	9.69	10.359		
1,500.0	1,499.5	1,489.1	1,489.1	5.1	5.2	129.65	6.2	103.4	113.5	103.4	10.16	11.173		
1,600.0	1,598.7	1,583.7	1,583.0	5.4	5.4	131.24	10.3	113.7	131.9	121.3	10.64	12.400		
1,700.0	1,697.5	1,676.6	1,674.9	5.8	5.7	132.66	15.5	126.6	155.6	144.5	11.14	13.975		
1,800.0	1,795.9	1,767.9	1,764.7	6.1	6.1	133.88	21.7	141.9	183.3	171.7	11.60	15.801		
1,900.0	1,894.4	1,857.8	1,852.6	6.3	6.4	134.37	28.9	159.6	213.6	201.5	12.07	17.700		
2,000.0	1,992.9	1,946.2	1,938.3	6.6	6.7	134.38	36.9	179.5	246.4	233.9	12.49	19.737		
2,100.0	2,091.4	2,039.9	2,028.8	7.0	7.0	134.23	46.0	202.0	280.6	267.7	12.96	21.656		
2,200.0	2,189.9	2,133.8	2,119.5	7.3	7.3	134.10	55.1	224.5	314.9	301.4	13.49	23.336		
2,300.0	2,288.4	2,227.8	2,210.3	7.7	7.6	134.00	64.2	247.1	349.1	335.0	14.05	24.854		
2,400.0	2,386.8	2,321.7	2,301.0	8.0	8.0	133.92	73.3	269.6	383.3	368.7	14.62	26.225		
2,500.0	2,485.3	2,415.7	2,391.8	8.4	8.3	133.85	82.4	292.2	417.5	402.3	15.20	27.466		
2,600.0	2,583.8	2,509.7	2,482.6	8.8	8.7	133.79	91.5	314.7	451.7	435.9	15.80	28.590		
2,700.0	2,682.3	2,603.6	2,573.3	9.2	9.1	133.74	100.6	337.3	486.0	469.5	16.41	29.611		
2,800.0	2,780.8	2,697.6	2,664.1	9.6	9.5	133.69	109.8	359.8	520.2	503.1	17.03	30.538		
2,900.0	2,879.2	2,791.6	2,754.8	9.9	9.9	133.65	118.9	382.4	554.4	536.7	17.67	31.383		
3,000.0	2,977.7	2,885.5	2,845.6	10.4	10.3	133.62	128.0	404.9	588.6	570.3	18.31	32.155		
3,100.0	3,076.2	2,979.5	2,936.4	10.8	10.7	133.59	137.1	427.5	622.8	603.9	18.95	32.861		
3,200.0	3,174.7	3,073.4	3,027.1	11.2	11.1	133.56	146.2	450.0	657.1	637.5	19.61	33.509		
3,300.0	3,273.2	3,167.4	3,117.9	11.6	11.5	133.54	155.3	472.6	691.3	671.0	20.27	34.104		
3,400.0	3,371.6	3,261.4	3,208.6	12.0	11.9	133.52	164.4	495.1	725.5	704.6	20.94	34.653		
3,500.0	3,470.1	3,355.3	3,299.4	12.4	12.3	133.50	173.5	517.6	759.7	738.1	21.61	35.159		
3,600.0	3,568.6	3,449.3	3,390.2	12.8	12.8	133.48	182.6	540.2	793.9	771.7	22.28	35.628		
3,700.0	3,667.1	3,543.3	3,480.9	13.3	13.2	133.46	191.7	562.7	828.2	805.2	22.97	36.062		
3,800.0	3,765.6	3,637.2	3,571.7	13.7	13.6	133.45	200.9	585.3	862.4	838.7	23.65	36.465		
3,900.0	3,864.0	3,731.2	3,662.4	14.1	14.1	133.43	210.0	607.8	896.6	872.3	24.34	36.840		
4,000.0	3,962.5	3,825.1	3,753.2	14.6	14.5	133.42	219.1	630.4	930.8	905.8	25.03	37.190		
4,100.0	4,061.0	3,919.1	3,844.0	15.0	14.9	133.41	228.2	652.9	965.1	939.3	25.72	37.517		
4,200.0	4,159.5	4,013.1	3,934.7	15.4	15.4	133.39	237.3	675.5	999.3	972.9	26.42	37.822		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 705H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1200-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference	Offset		Semi Major Axis		Rule Assigned:									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (usft)		Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)						
0.0	0.0	0.0	0.2	3.0	3.0	89.52	0.5	59.9	59.9					
100.0	100.0	99.8	100.0	3.0	3.0	89.52	0.5	59.9	59.9	53.4	6.48	9.241		
200.0	200.0	199.8	200.0	3.2	3.2	89.52	0.5	59.9	59.9	53.2	6.72	8.911		
300.0	300.0	299.8	300.0	3.3	3.3	89.52	0.5	59.9	59.9	52.9	6.95	8.614		
400.0	400.0	399.8	400.0	3.4	3.4	89.52	0.5	59.9	59.9	52.7	7.18	8.346		
500.0	500.0	499.8	500.0	3.5	3.5	89.52	0.5	59.9	59.9	52.5	7.39	8.102		
600.0	600.0	599.8	600.0	3.7	3.7	89.52	0.5	59.9	59.9	52.3	7.60	7.878		
700.0	700.0	699.8	700.0	3.8	3.8	89.52	0.5	59.9	59.9	52.1	7.81	7.673		
800.0	800.0	799.8	800.0	3.9	3.9	89.52	0.5	59.9	59.9	51.9	8.01	7.483		
900.0	900.0	899.8	900.0	4.0	4.0	89.52	0.5	59.9	59.9	51.7	8.20	7.307		
1,000.0	1,000.0	999.8	1,000.0	4.2	4.2	89.52	0.5	59.9	59.9	51.5	8.39	7.143		
1,100.0	1,100.0	1,099.8	1,100.0	4.3	4.3	89.52	0.5	59.9	59.9	51.3	8.57	6.989		
1,200.0	1,200.0	1,199.8	1,200.0	4.4	4.5	89.52	0.5	59.9	59.9	51.1	8.84	6.773 CC, ES		
1,300.0	1,300.0	1,298.0	1,298.2	4.6	4.7	126.89	1.4	61.3	62.4	53.1	9.21	6.770 SF		
1,400.0	1,399.8	1,395.9	1,396.0	4.8	4.9	127.82	4.3	65.4	69.7	60.1	9.66	7.223		
1,500.0	1,499.5	1,493.0	1,492.7	5.1	5.2	128.98	8.9	72.3	82.1	72.0	10.11	8.120		
1,600.0	1,598.7	1,589.1	1,588.1	5.4	5.5	130.06	15.4	81.7	99.3	88.7	10.57	9.396		
1,700.0	1,697.5	1,683.8	1,681.7	5.8	5.8	130.95	23.5	93.5	121.3	110.3	11.03	10.993		
1,800.0	1,795.9	1,777.1	1,773.4	6.1	6.1	131.50	33.2	107.7	146.9	135.5	11.47	12.807		
1,900.0	1,894.4	1,870.0	1,864.1	6.3	6.4	131.25	44.5	124.2	174.9	163.1	11.85	14.766		
2,000.0	1,992.9	1,965.8	1,957.4	6.6	6.7	130.88	56.6	142.0	203.7	191.4	12.29	16.570		
2,100.0	2,091.4	2,061.5	2,050.8	7.0	7.0	130.60	68.8	159.8	232.4	219.6	12.78	18.189		
2,200.0	2,189.9	2,157.3	2,144.1	7.3	7.3	130.38	80.9	177.6	261.1	247.9	13.28	19.663		
2,300.0	2,288.4	2,253.1	2,237.4	7.7	7.6	130.20	93.1	195.4	289.9	276.1	13.80	21.004		
2,400.0	2,386.8	2,348.9	2,330.7	8.0	8.0	130.06	105.2	213.2	318.6	304.3	14.34	22.227		
2,500.0	2,485.3	2,444.6	2,424.0	8.4	8.4	129.94	117.4	231.0	347.4	332.5	14.88	23.341		
2,600.0	2,583.8	2,540.4	2,517.4	8.8	8.7	129.84	129.5	248.8	376.1	360.7	15.44	24.359		
2,700.0	2,682.3	2,636.2	2,610.7	9.2	9.1	129.75	141.7	266.6	404.9	388.9	16.01	25.290		
2,800.0	2,780.8	2,732.0	2,704.0	9.6	9.5	129.68	153.8	284.3	433.7	417.1	16.59	26.143		
2,900.0	2,879.2	2,827.7	2,797.3	9.9	9.9	129.61	166.0	302.1	462.4	445.2	17.17	26.926		
3,000.0	2,977.7	2,923.5	2,890.6	10.4	10.3	129.55	178.1	319.9	491.2	473.4	17.77	27.647		
3,100.0	3,076.2	3,019.3	2,984.0	10.8	10.7	129.50	190.3	337.7	519.9	501.6	18.36	28.310		
3,200.0	3,174.7	3,115.1	3,077.3	11.2	11.1	129.45	202.5	355.5	548.7	529.7	18.97	28.923		
3,300.0	3,273.2	3,210.8	3,170.6	11.6	11.5	129.41	214.6	373.3	577.4	557.8	19.58	29.490		
3,400.0	3,371.6	3,306.6	3,263.9	12.0	12.0	129.37	226.8	391.1	606.2	586.0	20.20	30.015		
3,500.0	3,470.1	3,402.4	3,357.2	12.4	12.4	129.34	238.9	408.9	634.9	614.1	20.82	30.503		
3,600.0	3,568.6	3,498.2	3,450.6	12.8	12.8	129.31	251.1	426.7	663.7	642.3	21.44	30.956		
3,700.0	3,667.1	3,593.9	3,543.9	13.3	13.2	129.28	263.2	444.4	692.5	670.4	22.07	31.379		
3,800.0	3,765.6	3,689.7	3,637.2	13.7	13.7	129.25	275.4	462.2	721.2	698.5	22.70	31.774		
3,900.0	3,864.0	3,785.5	3,730.5	14.1	14.1	129.23	287.5	480.0	750.0	726.6	23.33	32.143		
4,000.0	3,962.5	3,881.3	3,823.9	14.6	14.5	129.21	299.7	497.8	778.7	754.8	23.97	32.488		
4,100.0	4,061.0	3,977.1	3,917.2	15.0	15.0	129.18	311.8	515.6	807.5	782.9	24.61	32.812		
4,200.0	4,159.5	4,072.8	4,010.5	15.4	15.4	129.17	324.0	533.4	836.2	811.0	25.25	33.117		
4,300.0	4,258.0	4,168.6	4,103.8	15.9	15.8	129.15	336.1	551.2	865.0	839.1	25.90	33.403		
4,400.0	4,356.4	4,264.4	4,197.1	16.3	16.3	129.13	348.3	569.0	893.8	867.2	26.54	33.673		
4,500.0	4,454.9	4,360.2	4,290.5	16.7	16.7	129.11	360.5	586.8	922.5	895.3	27.19	33.928		
4,600.0	4,553.4	4,455.9	4,383.8	17.1	17.2	129.15	372.6	604.6	951.2	923.4	27.82	34.193		
4,700.0	4,652.1	4,551.9	4,477.3	17.6	17.6	129.30	384.8	622.4	979.2	950.7	28.47	34.390		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 706H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1200-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.1	3.0	3.0	89.43	0.3	29.9	29.9					
100.0	100.0	99.9	100.0	3.0	3.0	89.43	0.3	29.9	29.9	23.4	6.48	4.613		
200.0	200.0	199.9	200.0	3.2	3.2	89.43	0.3	29.9	29.9	23.2	6.72	4.448		
300.0	300.0	299.9	300.0	3.3	3.3	89.43	0.3	29.9	29.9	22.9	6.95	4.300		
400.0	400.0	399.9	400.0	3.4	3.4	89.43	0.3	29.9	29.9	22.7	7.18	4.166		
500.0	500.0	499.9	500.0	3.5	3.5	89.43	0.3	29.9	29.9	22.5	7.39	4.044		
600.0	600.0	599.9	600.0	3.7	3.7	89.43	0.3	29.9	29.9	22.3	7.60	3.933		
700.0	700.0	699.9	700.0	3.8	3.8	89.43	0.3	29.9	29.9	22.1	7.81	3.830		
800.0	800.0	799.9	800.0	3.9	3.9	89.43	0.3	29.9	29.9	21.9	8.01	3.735		
900.0	900.0	899.9	900.0	4.0	4.0	89.43	0.3	29.9	29.9	21.7	8.20	3.647		
1,000.0	1,000.0	999.9	1,000.0	4.2	4.2	89.43	0.3	29.9	29.9	21.5	8.39	3.565		
1,100.0	1,100.0	1,099.9	1,100.0	4.3	4.3	89.43	0.3	29.9	29.9	21.3	8.57	3.489		
1,200.0	1,200.0	1,199.9	1,200.0	4.4	4.4	89.43	0.3	29.9	29.9	21.2	8.75	3.417	CC, ES, SF	
1,300.0	1,300.0	1,299.4	1,299.5	4.6	4.6	126.12	1.9	30.6	31.7	22.7	8.98	3.528		
1,400.0	1,399.8	1,398.7	1,398.7	4.8	4.9	125.37	6.5	32.9	37.1	27.7	9.38	3.954		
1,500.0	1,499.5	1,497.7	1,497.2	5.1	5.2	124.48	14.2	36.6	46.1	36.3	9.78	4.712		
1,600.0	1,598.7	1,596.0	1,594.9	5.4	5.5	123.66	25.0	41.7	58.6	48.5	10.18	5.761		
1,700.0	1,697.5	1,693.6	1,691.3	5.8	5.8	122.95	38.6	48.2	74.7	64.1	10.58	7.061		
1,800.0	1,795.9	1,791.9	1,788.1	6.1	6.1	122.55	54.0	55.5	92.7	81.7	10.96	8.457		
1,900.0	1,894.4	1,890.3	1,885.0	6.3	6.3	122.28	69.4	62.9	110.6	99.3	11.34	9.753		
2,000.0	1,992.9	1,988.7	1,981.9	6.6	6.6	122.08	84.8	70.2	128.5	116.8	11.73	10.955		
2,100.0	2,091.4	2,087.1	2,078.7	7.0	7.0	121.94	100.2	77.6	146.5	134.3	12.14	12.070		
2,200.0	2,189.9	2,185.4	2,175.6	7.3	7.3	121.82	115.6	85.0	164.4	151.9	12.55	13.103		
2,300.0	2,288.4	2,283.8	2,272.5	7.7	7.6	121.73	131.1	92.3	182.4	169.4	12.97	14.063		
2,400.0	2,386.8	2,382.2	2,369.4	8.0	8.0	121.65	146.5	99.7	200.3	186.9	13.39	14.955		
2,500.0	2,485.3	2,480.6	2,466.3	8.4	8.3	121.59	161.9	107.0	218.3	204.4	13.83	15.785		
2,600.0	2,583.8	2,578.9	2,563.1	8.8	8.7	121.53	177.3	114.4	236.2	222.0	14.27	16.558		
2,700.0	2,682.3	2,677.3	2,660.0	9.2	9.1	121.48	192.7	121.8	254.2	239.5	14.71	17.278		
2,800.0	2,780.8	2,775.7	2,756.9	9.6	9.5	121.44	208.1	129.1	272.1	257.0	15.16	17.951		
2,900.0	2,879.2	2,874.1	2,853.8	9.9	9.9	121.41	223.6	136.5	290.1	274.4	15.61	18.580		
3,000.0	2,977.7	2,972.4	2,950.7	10.4	10.3	121.38	239.0	143.8	308.0	291.9	16.07	19.169		
3,100.0	3,076.2	3,070.8	3,047.6	10.8	10.7	121.35	254.4	151.2	326.0	309.4	16.53	19.721		
3,200.0	3,174.7	3,169.2	3,144.4	11.2	11.1	121.32	269.8	158.6	343.9	326.9	16.99	20.240		
3,300.0	3,273.2	3,267.6	3,241.3	11.6	11.5	121.30	285.2	165.9	361.8	344.4	17.46	20.727		
3,400.0	3,371.6	3,365.9	3,338.2	12.0	11.9	121.28	300.6	173.3	379.8	361.9	17.93	21.185		
3,500.0	3,470.1	3,464.3	3,435.1	12.4	12.3	121.26	316.1	180.6	397.7	379.3	18.40	21.618		
3,600.0	3,568.6	3,562.7	3,532.0	12.8	12.7	121.25	331.5	188.0	415.7	396.8	18.87	22.025		
3,700.0	3,667.1	3,661.1	3,628.8	13.3	13.1	121.23	346.9	195.3	433.6	414.3	19.35	22.411		
3,800.0	3,765.6	3,759.4	3,725.7	13.7	13.5	121.22	362.3	202.7	451.6	431.8	19.83	22.775		
3,900.0	3,864.0	3,857.8	3,822.6	14.1	14.0	121.20	377.7	210.1	469.5	449.2	20.31	23.120		
4,000.0	3,962.5	3,956.2	3,919.5	14.6	14.4	121.19	393.1	217.4	487.5	466.7	20.79	23.447		
4,100.0	4,061.0	4,054.6	4,016.4	15.0	14.8	121.18	408.6	224.8	505.4	484.2	21.27	23.758		
4,200.0	4,159.5	4,153.0	4,113.3	15.4	15.2	121.17	424.0	232.1	523.4	501.6	21.76	24.053		
4,300.0	4,258.0	4,251.3	4,210.1	15.9	15.7	121.16	439.4	239.5	541.3	519.1	22.25	24.333		
4,400.0	4,356.4	4,349.7	4,307.0	16.3	16.1	121.15	454.8	246.9	559.3	536.5	22.73	24.600		
4,500.0	4,454.9	4,448.1	4,403.9	16.7	16.5	121.14	470.2	254.2	577.2	554.0	23.22	24.855		
4,600.0	4,553.4	4,546.5	4,500.8	17.1	16.9	121.17	485.6	261.6	595.1	571.5	23.69	25.123		
4,700.0	4,652.1	4,644.9	4,597.8	17.6	17.4	121.20	501.1	268.9	612.4	588.3	24.18	25.326		
4,800.0	4,751.1	4,743.6	4,694.9	18.0	17.8	121.10	516.5	276.3	628.8	604.2	24.66	25.496		
4,900.0	4,850.3	4,842.3	4,792.1	18.4	18.2	120.87	532.0	283.7	644.4	619.2	25.14	25.630		
5,000.0	4,949.7	4,941.0	4,889.4	18.8	18.7	120.52	547.5	291.1	659.1	633.4	25.62	25.729		
5,100.0	5,049.2	5,039.8	4,986.6	19.2	19.1	120.05	563.0	298.5	672.9	646.8	26.09	25.797		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 706H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1200-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,149.0	5,138.6	5,084.0	19.6	19.5	119.47	578.4	305.9	686.0	659.5	26.55	25.843	
5,300.0	5,248.8	5,242.1	5,186.0	19.9	20.0	118.78	594.3	313.4	698.1	671.1	27.01	25.844	
5,400.0	5,348.7	5,348.5	5,291.1	20.2	20.4	118.07	608.9	320.4	708.6	681.1	27.50	25.766	
5,500.0	5,448.7	5,455.3	5,396.9	20.5	20.9	117.37	621.9	326.6	717.3	689.3	27.97	25.645	
5,600.0	5,548.7	5,562.6	5,503.4	20.6	21.3	79.65	633.0	331.9	724.3	695.9	28.37	25.533	
5,700.0	5,648.7	5,670.2	5,610.6	20.7	21.8	78.99	642.4	336.4	730.0	701.2	28.76	25.384	
5,800.0	5,748.7	5,778.2	5,718.2	20.7	22.2	78.46	650.1	340.1	734.7	705.6	29.13	25.218	
5,900.0	5,848.7	5,886.4	5,826.3	20.8	22.5	78.06	655.9	342.8	738.3	708.8	29.49	25.038	
6,000.0	5,948.7	5,994.9	5,934.6	20.8	22.9	77.79	659.8	344.7	740.8	711.0	29.81	24.848	
6,100.0	6,048.7	6,103.5	6,043.2	20.9	23.2	77.65	661.9	345.7	742.1	712.0	30.09	24.661	
6,200.0	6,148.7	6,209.0	6,148.7	20.9	23.3	77.62	662.3	345.9	742.3	712.1	30.23	24.553	
6,300.0	6,248.7	6,309.0	6,248.7	21.0	23.3	77.62	662.3	345.9	742.3	712.0	30.36	24.450	
6,400.0	6,348.7	6,409.0	6,348.7	21.0	23.4	77.62	662.3	345.9	742.3	711.8	30.49	24.349	
6,500.0	6,448.7	6,509.0	6,448.7	21.1	23.4	77.62	662.3	345.9	742.3	711.7	30.61	24.248	
6,600.0	6,548.7	6,609.0	6,548.7	21.1	23.5	77.62	662.3	345.9	742.3	711.6	30.74	24.149	
6,700.0	6,648.7	6,709.0	6,648.7	21.2	23.5	77.62	662.3	345.9	742.3	711.4	30.87	24.049	
6,800.0	6,748.7	6,809.0	6,748.7	21.2	23.6	77.62	662.3	345.9	742.3	711.3	30.99	23.950	
6,900.0	6,848.7	6,909.0	6,848.7	21.3	23.6	77.62	662.3	345.9	742.3	711.2	31.12	23.852	
7,000.0	6,948.7	7,009.0	6,948.7	21.3	23.7	77.62	662.3	345.9	742.3	711.1	31.25	23.755	
7,100.0	7,048.7	7,109.0	7,048.7	21.4	23.7	77.62	662.3	345.9	742.3	710.9	31.38	23.658	
7,200.0	7,148.7	7,209.0	7,148.7	21.4	23.7	77.62	662.3	345.9	742.3	710.8	31.51	23.561	
7,300.0	7,248.7	7,309.0	7,248.7	21.5	23.8	77.62	662.3	345.9	742.3	710.7	31.63	23.465	
7,400.0	7,348.7	7,409.0	7,348.7	21.5	23.8	77.62	662.3	345.9	742.3	710.6	31.76	23.370	
7,500.0	7,448.7	7,509.0	7,448.7	21.6	23.9	77.62	662.3	345.9	742.3	710.4	31.89	23.275	
7,600.0	7,548.7	7,609.0	7,548.7	21.6	23.9	77.62	662.3	345.9	742.3	710.3	32.02	23.181	
7,700.0	7,648.7	7,709.0	7,648.7	21.7	24.0	77.62	662.3	345.9	742.3	710.2	32.15	23.087	
7,800.0	7,748.7	7,809.0	7,748.7	21.7	24.0	77.62	662.3	345.9	742.3	710.0	32.28	22.994	
7,900.0	7,848.7	7,909.0	7,848.7	21.8	24.1	77.62	662.3	345.9	742.3	709.9	32.41	22.901	
8,000.0	7,948.7	8,009.0	7,948.7	21.8	24.1	77.62	662.3	345.9	742.3	709.8	32.54	22.809	
8,100.0	8,048.7	8,109.0	8,048.7	21.9	24.2	77.62	662.3	345.9	742.3	709.6	32.68	22.717	
8,200.0	8,148.7	8,209.0	8,148.7	21.9	24.2	77.62	662.3	345.9	742.3	709.5	32.81	22.626	
8,300.0	8,248.7	8,309.0	8,248.7	22.0	24.3	77.62	662.3	345.9	742.3	709.4	32.94	22.536	
8,400.0	8,348.7	8,409.0	8,348.7	22.0	24.3	77.62	662.3	345.9	742.3	709.2	33.07	22.446	
8,500.0	8,448.7	8,509.0	8,448.7	22.1	24.4	77.62	662.3	345.9	742.3	709.1	33.20	22.357	
8,600.0	8,548.7	8,609.0	8,548.7	22.1	24.4	77.62	662.3	345.9	742.3	709.0	33.34	22.268	
8,700.0	8,648.7	8,709.0	8,648.7	22.2	24.4	77.62	662.3	345.9	742.3	708.8	33.47	22.180	
8,800.0	8,748.7	8,809.0	8,748.7	22.2	24.5	77.62	662.3	345.9	742.3	708.7	33.60	22.092	
8,900.0	8,848.7	8,909.0	8,848.7	22.3	24.5	77.62	662.3	345.9	742.3	708.6	33.73	22.005	
9,000.0	8,948.7	9,009.0	8,948.7	22.3	24.6	77.62	662.3	345.9	742.3	708.4	33.87	21.918	
9,100.0	9,048.7	9,109.0	9,048.7	22.4	24.6	77.62	662.3	345.9	742.3	708.3	34.00	21.832	
9,200.0	9,148.7	9,209.0	9,148.7	22.4	24.7	77.62	662.3	345.9	742.3	708.2	34.14	21.746	
9,300.0	9,248.7	9,309.0	9,248.7	22.5	24.7	77.62	662.3	345.9	742.3	708.0	34.27	21.661	
9,400.0	9,348.7	9,409.0	9,348.7	22.5	24.8	77.62	662.3	345.9	742.3	707.9	34.40	21.577	
9,500.0	9,448.7	9,509.0	9,448.7	22.6	24.8	77.62	662.3	345.9	742.3	707.8	34.54	21.492	
9,600.0	9,548.7	9,609.0	9,548.7	22.6	24.9	77.62	662.3	345.9	742.3	707.6	34.67	21.409	
9,700.0	9,648.7	9,709.0	9,648.7	22.7	24.9	77.62	662.3	345.9	742.3	707.5	34.81	21.326	
9,800.0	9,748.7	9,809.0	9,748.7	22.8	25.0	77.62	662.3	345.9	742.3	707.4	34.94	21.243	
9,900.0	9,848.7	9,909.0	9,848.7	22.8	25.0	77.62	662.3	345.9	742.3	707.2	35.08	21.161	
10,000.0	9,948.7	10,009.0	9,948.7	22.9	25.1	77.62	662.3	345.9	742.3	707.1	35.21	21.080	
10,100.0	10,048.7	10,109.0	10,048.7	22.9	25.1	77.62	662.3	345.9	742.3	707.0	35.35	20.999	
10,200.0	10,148.7	10,209.0	10,148.7	23.0	25.2	77.62	662.3	345.9	742.3	706.8	35.49	20.918	
10,300.0	10,248.7	10,309.0	10,248.7	23.0	25.2	77.62	662.3	345.9	742.3	706.7	35.62	20.838	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 706H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1200-r.5 MWD+IFR1+MS							Rule Assigned:						Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,400.0	10,348.7	10,409.0	10,348.7	23.1	25.3	77.62	662.3	345.9	742.3	706.6	35.76	20.758		
10,500.0	10,448.7	10,509.0	10,448.7	23.1	25.4	77.62	662.3	345.9	742.3	706.4	35.90	20.679		
10,600.0	10,548.7	10,609.0	10,548.7	23.2	25.4	77.62	662.3	345.9	742.3	706.3	36.03	20.601		
10,700.0	10,648.7	10,709.0	10,648.7	23.3	25.5	77.62	662.3	345.9	742.3	706.1	36.17	20.523		
10,800.0	10,748.7	10,809.0	10,748.7	23.3	25.5	77.62	662.3	345.9	742.3	706.0	36.31	20.445		
10,900.0	10,848.7	10,909.0	10,848.7	23.4	25.6	77.62	662.3	345.9	742.3	705.9	36.45	20.368		
11,000.0	10,948.7	11,009.0	10,948.7	23.4	25.6	77.62	662.3	345.9	742.3	705.7	36.58	20.291		
11,100.0	11,048.7	11,109.0	11,048.7	23.5	25.7	77.62	662.3	345.9	742.3	705.6	36.72	20.215		
11,200.0	11,148.7	11,209.0	11,148.7	23.5	25.7	77.62	662.3	345.9	742.3	705.5	36.86	20.139		
11,300.0	11,248.7	11,309.0	11,248.7	23.6	25.8	77.62	662.3	345.9	742.3	705.3	37.00	20.064		
11,400.0	11,348.7	11,409.0	11,348.7	23.6	25.8	77.62	662.3	345.9	742.3	705.2	37.14	19.989		
11,500.0	11,448.7	11,509.0	11,448.7	23.7	25.9	77.62	662.3	345.9	742.3	705.0	37.27	19.915		
11,600.0	11,548.7	11,609.0	11,548.7	23.8	25.9	77.62	662.3	345.9	742.3	704.9	37.41	19.842		
11,700.0	11,648.7	11,739.3	11,678.4	23.8	25.7	78.35	652.6	346.0	740.9	703.6	37.35	19.837		
11,800.0	11,748.1	11,874.5	11,805.2	23.6	25.2	-95.60	607.2	346.2	735.7	698.7	37.04	19.863		
11,900.0	11,843.6	11,996.9	11,905.1	23.3	24.8	-93.40	537.0	346.7	729.3	692.6	36.71	19.867		
12,000.0	11,931.0	12,107.8	11,977.5	23.0	24.4	-91.18	453.3	347.2	722.7	686.3	36.38	19.865		
12,100.0	12,006.4	12,209.2	12,025.2	22.7	24.2	-89.02	364.0	347.7	716.7	680.6	36.10	19.853		
12,200.0	12,066.5	12,303.1	12,051.7	22.4	24.1	-86.97	274.1	348.3	711.5	675.5	35.92	19.804		
12,300.0	12,108.8	12,391.2	12,060.1	22.3	24.1	-85.07	186.5	348.8	707.2	671.3	35.91	19.693		
12,400.0	12,131.3	12,488.1	12,060.1	22.2	24.1	-83.77	89.6	349.4	703.0	667.0	36.00	19.529		
12,500.0	12,135.0	12,587.7	12,060.1	22.2	24.1	-83.83	-10.0	350.0	697.3	661.3	36.05	19.342		
12,600.0	12,135.0	12,687.7	12,060.1	22.3	24.2	-83.81	-110.0	350.6	694.2	658.0	36.19	19.182		
12,697.2	12,135.0	12,784.9	12,060.1	22.3	24.2	-83.80	-207.1	351.2	693.4	657.1	36.34	19.081		
12,700.0	12,135.0	12,787.7	12,060.1	22.3	24.2	-83.80	-210.0	351.2	693.9	657.5	36.35	19.090		
12,800.0	12,135.0	12,887.7	12,060.1	22.4	24.3	-83.80	-310.0	351.8	693.9	657.3	36.58	18.969		
12,900.0	12,135.0	12,987.7	12,060.1	22.5	24.3	-83.80	-410.0	352.4	693.9	657.0	36.87	18.818		
13,000.0	12,135.0	13,087.7	12,060.1	22.6	24.4	-83.80	-510.0	353.1	693.9	656.6	37.22	18.640		
13,100.0	12,135.0	13,187.7	12,060.1	22.7	24.5	-83.80	-610.0	353.7	693.9	656.2	37.64	18.436		
13,200.0	12,135.0	13,287.7	12,060.1	22.8	24.6	-83.80	-710.0	354.3	693.9	655.8	38.10	18.210		
13,300.0	12,135.0	13,387.7	12,060.1	22.9	24.7	-83.80	-810.0	354.9	693.9	655.2	38.63	17.964		
13,400.0	12,135.0	13,487.7	12,060.1	23.1	24.8	-83.80	-910.0	355.5	693.9	654.7	39.20	17.701		
13,500.0	12,135.0	13,587.7	12,060.1	23.3	24.9	-83.80	-1,010.0	356.1	693.9	654.1	39.82	17.425		
13,600.0	12,135.0	13,687.7	12,060.1	23.5	25.0	-83.80	-1,110.0	356.7	693.9	653.4	40.49	17.136		
13,700.0	12,135.0	13,787.7	12,060.1	23.7	25.2	-83.80	-1,210.0	357.3	693.9	652.7	41.21	16.839		
13,800.0	12,135.0	13,887.7	12,060.1	23.9	25.3	-83.80	-1,310.0	357.9	693.9	651.9	41.97	16.534		
13,900.0	12,135.0	13,987.7	12,060.1	24.1	25.5	-83.80	-1,410.0	358.5	693.9	651.1	42.76	16.226		
14,000.0	12,135.0	14,087.7	12,060.1	24.4	25.7	-83.80	-1,510.0	359.2	693.9	650.3	43.60	15.915		
14,100.0	12,135.0	14,187.7	12,060.1	24.7	25.9	-83.80	-1,609.9	359.8	693.9	649.4	44.47	15.602		
14,200.0	12,135.0	14,287.7	12,060.1	25.0	26.1	-83.80	-1,709.9	360.4	693.9	648.5	45.38	15.291		
14,300.0	12,135.0	14,387.7	12,060.1	25.3	26.4	-83.80	-1,809.9	361.0	693.9	647.6	46.32	14.981		
14,400.0	12,135.0	14,487.7	12,060.1	25.7	26.6	-83.80	-1,909.9	361.6	693.9	646.6	47.29	14.674		
14,500.0	12,135.0	14,587.7	12,060.1	26.1	26.9	-83.80	-2,009.9	362.2	693.9	645.6	48.28	14.372		
14,600.0	12,135.0	14,687.7	12,060.1	26.5	27.3	-83.80	-2,109.9	362.8	693.9	644.6	49.30	14.074		
14,700.0	12,135.0	14,787.7	12,060.1	26.9	27.6	-83.80	-2,209.9	363.4	693.9	643.5	50.35	13.781		
14,800.0	12,135.0	14,887.7	12,060.1	27.3	28.0	-83.80	-2,309.9	364.0	693.9	642.5	51.42	13.494		
14,900.0	12,135.0	14,987.7	12,060.1	27.7	28.3	-83.80	-2,409.9	364.6	693.9	641.4	52.52	13.213		
15,000.0	12,135.0	15,087.7	12,060.1	28.2	28.7	-83.80	-2,509.9	365.3	693.9	640.3	53.63	12.939		
15,100.0	12,135.0	15,187.7	12,060.1	28.7	29.2	-83.80	-2,609.9	365.9	693.9	639.1	54.76	12.672		
15,200.0	12,135.0	15,287.7	12,060.1	29.2	29.6	-83.80	-2,709.9	366.5	693.9	638.0	55.91	12.411		
15,300.0	12,135.0	15,387.7	12,060.1	29.7	30.1	-83.80	-2,809.9	367.1	693.9	636.8	57.08	12.157		
15,400.0	12,135.0	15,487.7	12,060.1	30.2	30.6	-83.80	-2,909.9	367.7	693.9	635.7	58.26	11.911		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 706H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1200-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,500.0	12,135.0	15,587.7	12,060.1	30.8	31.1	-83.80	-3,009.9	368.3	693.9	634.5	59.46	11.671	
15,600.0	12,135.0	15,687.7	12,060.1	31.3	31.6	-83.80	-3,109.9	368.9	693.9	633.2	60.67	11.437	
15,700.0	12,135.0	15,787.7	12,060.1	31.9	32.2	-83.80	-3,209.9	369.5	693.9	632.0	61.90	11.211	
15,800.0	12,135.0	15,887.7	12,060.1	32.5	32.7	-83.80	-3,309.9	370.1	693.9	630.8	63.13	10.991	
15,900.0	12,135.0	15,987.7	12,060.1	33.1	33.3	-83.80	-3,409.9	370.7	693.9	629.5	64.38	10.778	
16,000.0	12,135.0	16,087.7	12,060.1	33.7	33.9	-83.80	-3,509.9	371.3	693.9	628.3	65.64	10.571	
16,100.0	12,135.0	16,187.7	12,060.1	34.3	34.4	-83.80	-3,609.9	372.0	693.9	627.0	66.91	10.370	
16,200.0	12,135.0	16,287.7	12,060.1	34.9	35.0	-83.80	-3,709.9	372.6	693.9	625.7	68.19	10.176	
16,300.0	12,135.0	16,387.7	12,060.1	35.5	35.7	-83.80	-3,809.9	373.2	693.9	624.4	69.48	9.987	
16,400.0	12,135.0	16,487.7	12,060.1	36.1	36.3	-83.80	-3,909.9	373.8	693.9	623.2	70.78	9.804	
16,500.0	12,135.0	16,587.7	12,060.1	36.7	36.9	-83.80	-4,009.9	374.4	693.9	621.8	72.09	9.626	
16,600.0	12,135.0	16,687.7	12,060.1	37.4	37.5	-83.80	-4,109.9	375.0	693.9	620.5	73.41	9.454	
16,700.0	12,135.0	16,787.7	12,060.1	38.0	38.2	-83.80	-4,209.9	375.6	693.9	619.2	74.73	9.286	
16,800.0	12,135.0	16,887.7	12,060.1	38.7	38.8	-83.80	-4,309.9	376.2	693.9	617.9	76.06	9.124	
16,900.0	12,135.0	16,987.7	12,060.1	39.3	39.5	-83.80	-4,409.9	376.8	693.9	616.6	77.39	8.966	
17,000.0	12,135.0	17,087.7	12,060.1	40.0	40.1	-83.80	-4,509.9	377.4	693.9	615.2	78.74	8.814	
17,100.0	12,135.0	17,187.7	12,060.1	40.6	40.8	-83.80	-4,609.9	378.1	693.9	613.9	80.08	8.665	
17,200.0	12,135.0	17,287.7	12,060.1	41.3	41.4	-83.80	-4,709.9	378.7	694.0	612.5	81.44	8.521	
17,300.0	12,135.0	17,387.7	12,060.1	42.0	42.1	-83.80	-4,809.9	379.3	694.0	611.2	82.80	8.381	
17,400.0	12,135.0	17,487.7	12,060.1	42.6	42.8	-83.80	-4,909.9	379.9	694.0	609.8	84.16	8.245	
17,500.0	12,135.0	17,587.7	12,060.1	43.3	43.5	-83.80	-5,009.9	380.5	694.0	608.4	85.53	8.113	
17,600.0	12,135.0	17,687.7	12,060.1	44.0	44.2	-83.80	-5,109.9	381.1	694.0	607.1	86.91	7.985	
17,700.0	12,135.0	17,787.7	12,060.1	44.7	44.8	-83.80	-5,209.9	381.7	694.0	605.7	88.28	7.860	
17,800.0	12,135.0	17,887.7	12,060.1	45.4	45.5	-83.80	-5,309.9	382.3	694.0	604.3	89.67	7.739	
17,900.0	12,135.0	17,987.7	12,060.1	46.1	46.2	-83.80	-5,409.9	382.9	694.0	602.9	91.06	7.621	
18,000.0	12,135.0	18,087.7	12,060.1	46.8	46.9	-83.80	-5,509.9	383.5	694.0	601.5	92.45	7.507	
18,100.0	12,135.0	18,187.7	12,060.1	47.4	47.6	-83.80	-5,609.9	384.2	694.0	600.1	93.84	7.395	
18,200.0	12,135.0	18,287.7	12,060.1	48.1	48.3	-83.80	-5,709.9	384.8	694.0	598.7	95.24	7.287	
18,300.0	12,135.0	18,387.7	12,060.1	48.8	49.0	-83.80	-5,809.9	385.4	694.0	597.3	96.64	7.181	
18,400.0	12,135.0	18,487.7	12,060.1	49.5	49.7	-83.80	-5,909.9	386.0	694.0	595.9	98.05	7.078	
18,500.0	12,135.0	18,587.7	12,060.1	50.2	50.4	-83.80	-6,009.9	386.6	694.0	594.5	99.45	6.978	
18,600.0	12,135.0	18,687.7	12,060.1	50.9	51.1	-83.80	-6,109.9	387.2	694.0	593.1	100.86	6.880	
18,700.0	12,135.0	18,787.7	12,060.1	51.7	51.8	-83.80	-6,209.9	387.8	694.0	591.7	102.28	6.785	
18,800.0	12,135.0	18,887.7	12,060.1	52.4	52.6	-83.80	-6,309.9	388.4	694.0	590.3	103.69	6.693	
18,900.0	12,135.0	18,987.7	12,060.1	53.1	53.3	-83.80	-6,409.9	389.0	694.0	588.9	105.11	6.602	
19,000.0	12,135.0	19,087.7	12,060.1	53.8	54.0	-83.80	-6,509.9	389.6	694.0	587.5	106.54	6.514	
19,100.0	12,135.0	19,187.7	12,060.1	54.5	54.7	-83.80	-6,609.9	390.3	694.0	586.0	107.96	6.428	
19,200.0	12,135.0	19,287.7	12,060.1	55.2	55.4	-83.80	-6,709.9	390.9	694.0	584.6	109.39	6.344	
19,300.0	12,135.0	19,387.7	12,060.1	55.9	56.1	-83.80	-6,809.9	391.5	694.0	583.2	110.81	6.263	
19,400.0	12,135.0	19,487.7	12,060.1	56.7	56.9	-83.80	-6,909.8	392.1	694.0	581.8	112.25	6.183	
19,500.0	12,135.0	19,587.7	12,060.1	57.4	57.6	-83.80	-7,009.8	392.7	694.0	580.3	113.68	6.105	
19,600.0	12,135.0	19,687.7	12,060.1	58.1	58.3	-83.80	-7,109.8	393.3	694.0	578.9	115.11	6.029	
19,700.0	12,135.0	19,787.7	12,060.1	58.8	59.0	-83.80	-7,209.8	393.9	694.0	577.5	116.55	5.955	
19,800.0	12,135.0	19,887.7	12,060.1	59.5	59.8	-83.80	-7,309.8	394.5	694.0	576.0	117.99	5.882	
19,900.0	12,135.0	19,987.7	12,060.1	60.3	60.5	-83.80	-7,409.8	395.1	694.0	574.6	119.43	5.811	
20,000.0	12,135.0	20,087.7	12,060.1	61.0	61.2	-83.80	-7,509.8	395.7	694.0	573.1	120.87	5.742	
20,100.0	12,135.0	20,187.7	12,060.1	61.7	62.0	-83.80	-7,609.8	396.4	694.0	571.7	122.31	5.674	
20,200.0	12,135.0	20,287.7	12,060.1	62.4	62.7	-83.80	-7,709.8	397.0	694.0	570.3	123.76	5.608	
20,300.0	12,135.0	20,387.7	12,060.1	63.2	63.4	-83.80	-7,809.8	397.6	694.0	568.8	125.21	5.543	
20,400.0	12,135.0	20,487.7	12,060.1	63.9	64.1	-83.80	-7,909.8	398.2	694.0	567.4	126.65	5.480	
20,500.0	12,135.0	20,587.7	12,060.1	64.6	64.9	-83.80	-8,009.8	398.8	694.0	565.9	128.10	5.418	
20,600.0	12,135.0	20,687.7	12,060.1	65.4	65.6	-83.80	-8,109.8	399.4	694.0	564.5	129.56	5.357	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

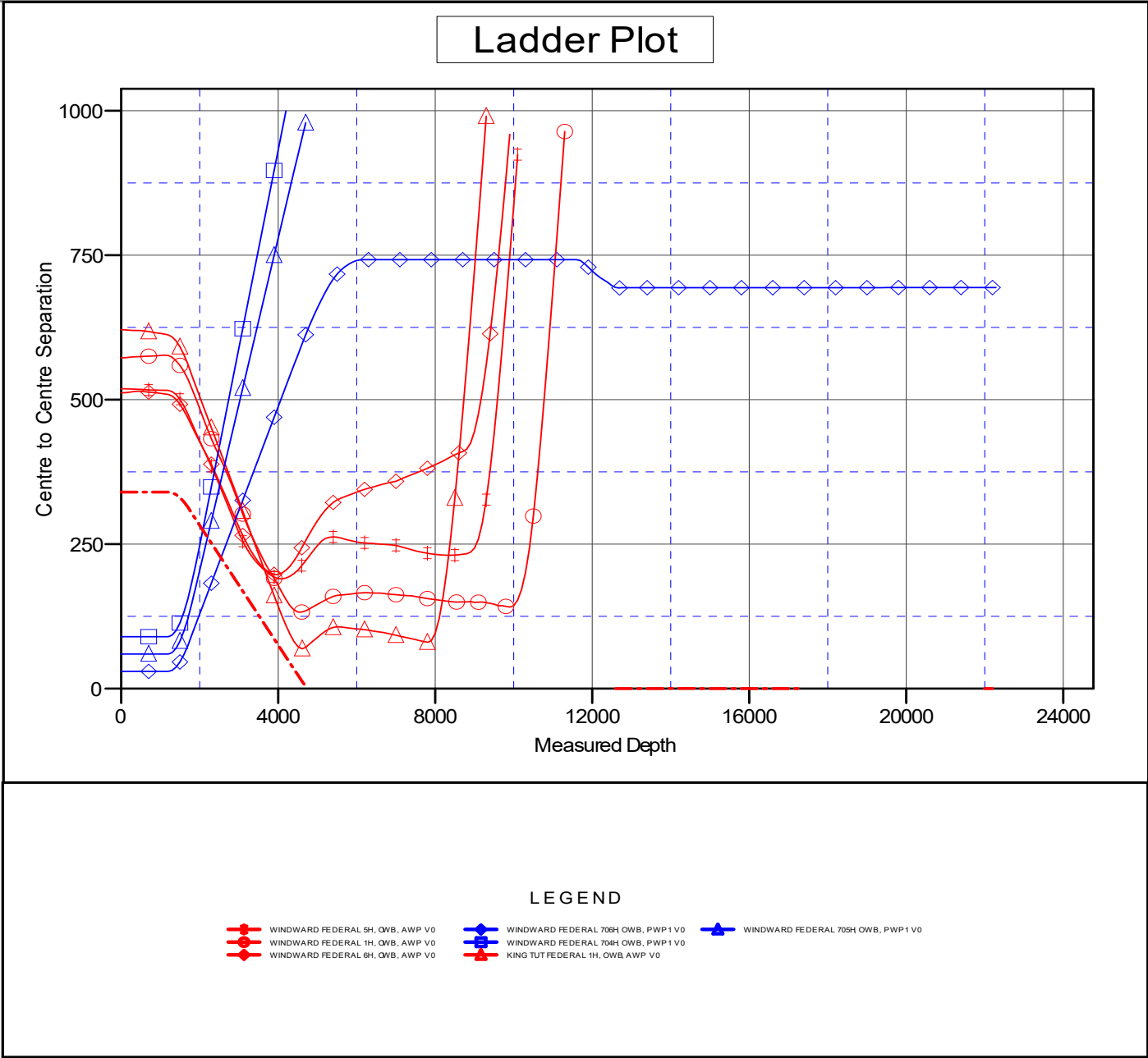
Offset Design: WINDWARD FEDERAL PROJECT - WINDWARD FEDERAL 706H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1200-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Minimum Separation (usft)	Separation Factor
20,700.0	12,135.0	20,787.7	12,060.1	66.1	66.3	-83.80	-8,209.8	400.0	694.0	563.0		131.01	5.298
20,800.0	12,135.0	20,887.7	12,060.1	66.8	67.1	-83.80	-8,309.8	400.6	694.0	561.6		132.46	5.239
20,900.0	12,135.0	20,987.7	12,060.1	67.6	67.8	-83.80	-8,409.8	401.2	694.0	560.1		133.92	5.183
21,000.0	12,135.0	21,087.7	12,060.1	68.3	68.6	-83.80	-8,509.8	401.8	694.0	558.7		135.37	5.127
21,100.0	12,135.0	21,187.7	12,060.1	69.0	69.3	-83.80	-8,609.8	402.5	694.0	557.2		136.83	5.072
21,200.0	12,135.0	21,287.7	12,060.1	69.8	70.0	-83.80	-8,709.8	403.1	694.0	555.7		138.29	5.019
21,300.0	12,135.0	21,387.7	12,060.1	70.5	70.8	-83.80	-8,809.8	403.7	694.0	554.3		139.75	4.966
21,400.0	12,135.0	21,487.7	12,060.1	71.2	71.5	-83.80	-8,909.8	404.3	694.0	552.8		141.21	4.915
21,500.0	12,135.0	21,587.7	12,060.1	72.0	72.3	-83.80	-9,009.8	404.9	694.0	551.4		142.67	4.865
21,600.0	12,135.0	21,687.7	12,060.1	72.7	73.0	-83.80	-9,109.8	405.5	694.0	549.9		144.13	4.815
21,700.0	12,135.0	21,787.7	12,060.1	73.4	73.7	-83.80	-9,209.8	406.1	694.0	548.4		145.60	4.767
21,800.0	12,135.0	21,887.7	12,060.1	74.2	74.5	-83.80	-9,309.8	406.7	694.0	547.0		147.06	4.719
21,900.0	12,135.0	21,987.7	12,060.1	74.9	75.2	-83.80	-9,409.8	407.3	694.1	545.5		148.53	4.673
22,000.0	12,135.0	22,087.7	12,060.1	75.7	76.0	-83.80	-9,509.8	407.9	694.1	544.1		149.99	4.627
22,100.0	12,135.0	22,187.7	12,060.1	76.4	76.7	-83.80	-9,609.8	408.6	694.1	542.6		151.46	4.582
22,200.0	12,135.0	22,287.7	12,060.1	77.1	77.4	-83.80	-9,709.8	409.2	694.1	541.1		152.93	4.538
22,286.2	12,135.0	22,373.9	12,060.1	77.7	78.1	-83.80	-9,796.0	409.7	694.1	540.0		154.06	4.505

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to KB=32 @ 3573.5usft	Coordinates are relative to: WINDWARD FEDERAL 708H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is 104° 20' 0.000 W	Grid Convergence at Surface is: 0.33°



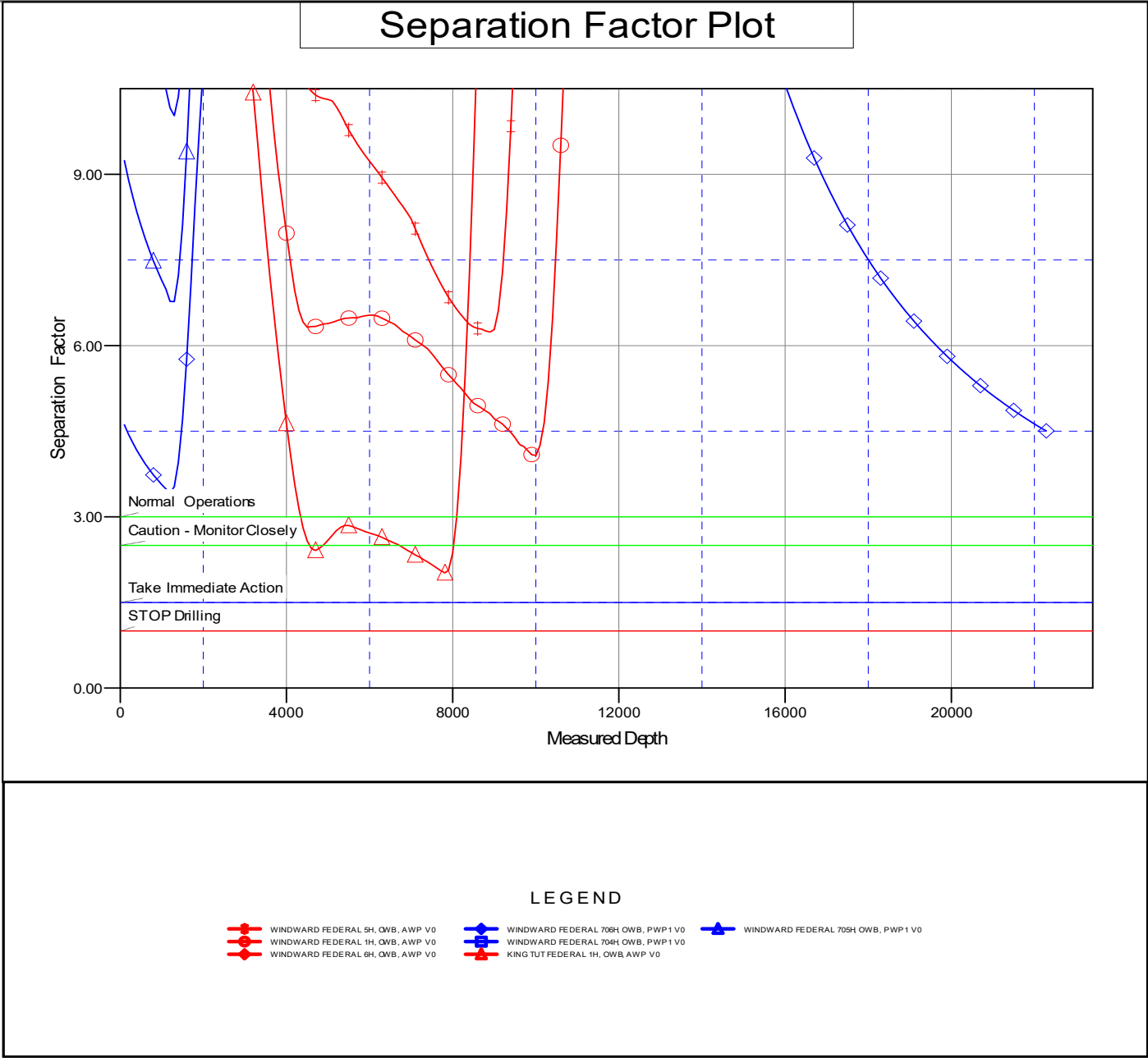
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FEDERAL 708H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	KB=32 @ 3573.5usft
Reference Site:	WINDWARD FEDERAL PROJECT	MD Reference:	KB=32 @ 3573.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FEDERAL 708H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to KB=32 @ 3573.5usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: WINDWARD FEDERAL 708H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.33°





API BTC

Coupling	Pipe Body
Grade: J55 (Casing)	Grade: J55 (Casing)
Body: Bright Green	1st Band: Bright Green
1st Band: White	2nd Band: -
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -

Outside Diameter	10.750 in.	Wall Thickness	0.400 in.	Grade	J55 (Casing)
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	Regular				

Pipe Body Data

Geometry			Performance		
Nominal OD	10.750 in.	Drift	9.794 in.	SMYS	55,000 psi
Wall Thickness	0.400 in.	Plain End Weight	44.26 lb/ft	Min UTS	75,000 psi
Nominal Weight	45.500 lb/ft	OD Tolerance	API	Body Yield Strength	715 x1000 lb
Nominal ID	9.950 in.			Min. Internal Yield Pressure	3580 psi
				Collapse Pressure	2090 psi
				Max. Allowed Bending	23 °/100 ft

Connection Data

Geometry		Performance	
Thread per In	5	Joint Strength	796 x1000 lb
Connection OD	11.750 in.	Coupling Face Load	628 x1000 lb
Hand Tight Stand Off	1 in.	Internal Pressure Capacity	3580 psi

Notes

For products according to API Standards 5CT & 5B; Performance calculated considering API Technical Report 5C3 (Sections 9 & 10) equations.
For geometrical and steel grades combinations not considered in the API Standards 5CT and/or 5B; Performance calculations indirectly derived from API Technical Report 5C3 (Sections 9 & 10) equations.
Couplings OD are shown according to current API 5CT 10th Edition.
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TXP® BTC



Coupling	Pipe Body
Grade: L80-ICY	Grade: L80-ICY
Body: Red	1st Band: Red
1st Band: Brown	2nd Band: Brown
2nd Band: Pale Green	3rd Band: Pale Green
3rd Band: -	4th Band: Pale Green
	5th Band: -
	6th Band: -

Outside Diameter	7.625 in.	Wall Thickness	0.375 in.	Grade	L80-ICY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	7.625 in.	Wall Thickness	0.375 in.	Body Yield Strength	726 x1000 lb
Nominal Weight	29.70 lb/ft	Plain End Weight	29.06 lb/ft	Min. Internal Yield Pressure	7320 psi
Drift	6.750 in.	OD Tolerance	API	SMYS	85,000 psi
Nominal ID	6.875 in.			Collapse Pressure	5900 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	8.500 in.	Tension Efficiency	100 %	Minimum	16,100 ft-lb
Coupling Length	10.575 in.	Joint Yield Strength	726 x1000 lb	Optimum	17,890 ft-lb
Connection ID	6.863 in.	Internal Pressure Capacity	7320 psi	Maximum	19,680 ft-lb
Make-up Loss	4.766 in.	Compression Efficiency	100 %	Operation Limit Torques	
Threads per inch	5	Compression Strength	726 x1000 lb		
Connection OD Option	Regular	Max. Allowable Bending	51 °/100 ft		
		External Pressure Capacity	5900 psi	Yield Torque	25,100 ft-lb

Notes

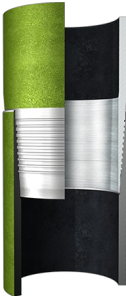
This connection is fully interchangeable with:
TXP® BTC - 7.625 in. - 0.328 / 0.43 / 0.5 / 0.562 / 0.595 / 0.625 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version
Datasheet is also valid for Special Bevel option when applicable - except for Coupling Face Load, which will be reduced. Please contact a local Tenaris technical sales representative.
Standard coupling design comes with optimized 20° bevel.

For the latest performance data, always visit our website: www.tenaris.com

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Wedge 513®



Coupling	Pipe Body
Grade: P110-ICY	Grade: P110-ICY
Body: White	1st Band: White
1st Band: Pale Green	2nd Band: Pale Green
2nd Band: -	3rd Band: Pale Green
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	7.625 in.	Wall Thickness	0.375 in.	Grade	P110-ICY
Min. Wall Thickness	90.00 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	7.625 in.	Wall Thickness	0.375 in.	Body Yield Strength	1068 x1000 lb
Nominal Weight	29.70 lb/ft	Plain End Weight	29.06 lb/ft	Min. Internal Yield Pressure	11,070 psi
Drift	6.750 in.	OD Tolerance	API	SMYS	125,000 psi
Nominal ID	6.875 in.			Collapse Pressure	7360 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	7.625 in.	Tension Efficiency	60 %	Minimum	9000 ft-lb
Connection ID	6.800 in.	Joint Yield Strength	641 x1000 lb	Optimum	10,800 ft-lb
Make-up Loss	4.420 in.	Internal Pressure Capacity	11,070 psi	Maximum	15,800 ft-lb
Threads per inch	3.29	Compression Efficiency	75.20 %	Operation Limit Torques	
Connection OD Option	Regular	Compression Strength	803 x1000 lb	Operating Torque	53,000 ft-lb
		Max. Allowable Bending	45 °/100 ft	Yield Torque	79,000 ft-lb
		External Pressure Capacity	7360 psi		

Notes

This connection is fully interchangeable with:
Wedge 523® - 7.625 in. - 0.375 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version

For the latest performance data, always visit our website: www.tenaris.com

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TXP® BTC



Coupling	Pipe Body
Grade: P110-CY	Grade: P110-CY
Body: White	1st Band: White
1st Band: Grey	2nd Band: Grey
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.415 in.	Grade	P110-CY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	Wall Thickness	0.415 in.	Body Yield Strength	729 x1000 lb
Nominal Weight	23 lb/ft	Plain End Weight	22.56 lb/ft	Min. Internal Yield Pressure	14,530 psi
Drift	4.545 in.	OD Tolerance	API	SMYS	110,000 psi
Nominal ID	4.670 in.			Collapse Pressure	14,540 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	6.200 in.	Tension Efficiency	100 %	Minimum	12,980 ft-lb
Coupling Length	9.450 in.	Joint Yield Strength	729 x1000 lb	Optimum	14,420 ft-lb
Connection ID	4.658 in.	Internal Pressure Capacity	14,530 psi	Maximum	15,860 ft-lb
Make-up Loss	4.204 in.	Compression Efficiency	100 %	Operation Limit Torques	
Threads per inch	5	Compression Strength	729 x1000 lb	Operating Torque	24,200 ft-lb
Connection OD Option	Regular	Max. Allowable Bending	92 °/100 ft	Yield Torque	26,900 ft-lb
		External Pressure Capacity	14,540 psi		

Notes

This connection is fully interchangeable with:
TXP® BTC - 5.5 in. - 0.275 / 0.304 / 0.361 / 0.476 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version
Datasheet is also valid for Special Bevel option when applicable - except for Coupling Face Load, which will be reduced. Please contact a local Tenaris technical sales representative.
Standard coupling design comes with optimized 20° bevel.

For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

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TenarisHydril Wedge 441®



Coupling	Pipe Body
Grade: P110-CY	Grade: P110-CY
Body: White	1st Band: White
1st Band: Grey	2nd Band: Grey
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.415 in.	Grade	P110-CY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	Wall Thickness	0.415 in.	Body Yield Strength	729 x1000 lb
Nominal Weight	23 lb/ft	Plain End Weight	22.56 lb/ft	Min. Internal Yield Pressure	14,530 psi
Drift	4.545 in.	OD Tolerance	API	SMYS	110,000 psi
Nominal ID	4.670 in.			Collapse Pressure	14,540 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	5.900 in.	Tension Efficiency	90.80 %	Minimum	15,000 ft-lb
Coupling Length	8.714 in.	Joint Yield Strength	662 x1000 lb	Optimum	16,000 ft-lb
Connection ID	4.670 in.	Internal Pressure Capacity	14,530 psi	Maximum	19,200 ft-lb
Make-up Loss	3.780 in.	Compression Efficiency	90.80 %	Operation Limit Torques	
Threads per inch	3.40	Compression Strength	662 x1000 lb	Operating Torque	33,000 ft-lb
Connection OD Option	Regular	Max. Allowable Bending	82 °/100 ft	Yield Torque	39,000 ft-lb
		External Pressure Capacity	14,540 psi	Buck-On	
		Coupling Face Load	172,000 lb	Minimum	19,200 ft-lb
				Maximum	20,700 ft-lb

Notes

This connection is fully interchangeable with:
Wedge 441® - 5.5 in. - 0.476 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version

For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 340101

CONDITIONS

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 340101
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
matthew.gomez	The C-103 NOI was not approved or rejected; however, the work requested in the C-103 NOI was performed and completed without NMOCD approval. This action will result in review for potential compliance actions.	10/27/2025
matthew.gomez	No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations.	10/27/2025
matthew.gomez	Administrative order required for non-standard spacing unit prior to production.	10/27/2025
matthew.gomez	Any previous COA's not addressed within the updated COA's still apply.	10/27/2025